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HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES.

JULY—DECEMBER.

1867.

THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,

AND OF

THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

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CONTENTS OF VOL. XLVI.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

Sect. I.—General Questions in Medicine.

ART. PAGE

1. On the Inoculability of Tubercle. *M. Hérard* 1
2. On the Use of Opiates in Continued Fever. *Dr. N. G. Mercer* 2
3. Cholera: Treatment by the Bromide of Potassium: Recovery. *Dr. Sutton* . . 4
4. Forms of Continued Fever, and their Definitions. *Dr. James Stark* . . . 5
5. The Cryptogamic Theory of the Origin of Intermittent Fevers 7
6. Treatment of the Congestive Stage of Ague. *Dr. Porcher* 7
7. On the so-called Epidemic of "Malignant Purpuric Fever" in Ireland, as it occurred amongst the troops. *Dr. Jeffery A. Marston* 7
8. Malignant Purple Fever Epidemic in Ireland. *Dr. E. D. Mapother* . . . 8
9. On the recent Outbreak of "Febris Nigra" in Dublin. *Mr. Robert D. Lyons* . 10
10. On an Epidemic of Cerebro-Spinal Meningitis. *Mr. G. M. Lowe* 13
11. Report of Five Cases of Cerebro-Spinal Meningitis. *Mr. Henry Gray Croly* . 15
12. The Epidemic of Cerebro-Spinal Typhus in Ireland 17
13. A short General Account of the Epidemic of Fever at Mauritius. *Mr. Wilmot H. F. Power* 19
14. Report on Cholera, with Remarks. *Drs. Hayden and Cruise* 20
15. Papers on Cholera. *Dr. Mapother and Dr. P. C. Little* 21
16. Cholera. *Dr. Henry Hartshorne* 22
17. Observations on Gangrenous Affections in Choleraic Patients. *M. A. Mouchet* . 22
18. Heartburn (Cardialgia). *Dr. F. W. Pavy* 26
19. Report of a Case of Acute Dropsy without Albuminuria. *Dr. W. R. Basham* . 27
20. How to prevent Pitting of the Face by Small-pox in Persons unprotected by Vaccination. *Dr. C. Black* 28
21. On some Fatal Cases of Rheumatic Fever, accompanied by a very high Temperature of the Body—namely, 110° and 111° Fahr. *Dr. Sydney Ringer* . . . 30

Sect. II.—Special Questions in Medicine.

(a) *Concerning the Nervous System.*

22. The Diagnosis of Acute Mania. *Dr. Henry Maudsley* 36
23. On Wakefulness. *Dr. William A. Hammond* 37
24. On Melancholia of Early Life. *Dr. Henry Maudsley* 39
25. Moral Insanity. *M. Brierre de Boismont* 40
26. Cases of Epilepsy with Complications: Remarks upon Treatment. *Dr. Althaus* . 41
27. Treatment of Cerebral Congestion and Hallucinations by Arsenious Acid . . 43
28. Spinal Congestion from Sudden Suppression of Menstruation: Paralysis of the Four Limbs: Recovery. *Dr. Radcliffe* 44
29. On Cerebral "Ramollissement." *Dr. H. Soulier* 45

ART. PAGE

30. The Differential Diagnosis between Chronic Abscess of the Brain and a Cerebral Tumour. *Mr. Rudolph Mayer* 46
31. Mania Acutissima occurring during a Paroxysm of Intermittent Fever. *Professor Erhardt* 48
32. Case of Hemeralopia successfully treated by Strychnia and Opium combined. *Dr. W. H. Gardner* 49
33. On Affections of the Spinal Cord accompanying Chronic Articular Rheumatism. *M. Charcot* 50
34. Cases of Defect of Speech, with Hemiplegia of the Right Side. *Dr. Peacock* . 51
35. On the Treatment of Delirium Tremens by Cannabis Indica. *Dr. John Beddoe* . 52
36. On Convulsive Tremor. *Dr. William A. Hammond* 53

(b) *Concerning the Respiratory System.*

37. Lesions of the Respiratory Organs accompanying Chronic Articular Rheumatism. *M. Charcot* 58
38. Prophylaxis of Whooping-cough 59
39. Spasm of the Glottis 59
40. On a Particular Cause of Error in the Diagnosis of Certain Cases of Pleuritic Effusion. *M. Woillez* 59
41. Bleeding in Pneumonia 60
42. The Alcoholic Treatment of Pneumonia 61
43. On the Treatment of Pneumonia. *Dr. A. T. H. Waters* 61
44. Iodine Inhalation in the Treatment of Diphtheria. *Mr. J. Waring Curran* . . 64
45. Treatment of Hæmoptysis with Inhalations of Liquor Ferri Sesquichloridi. *Dr. P. Q. Brondgeest* 65
46. On the Nature and the Mode of Propagation of Phthisis. *Dr. William Budd* . 66
47. Treatment of Phthisis: Hospital Notes. *Dr. E. Symes Thompson* . . . 70
48. The Treatment of Pulmonary Consumption. *Dr. J. Henry Bennett* . . . 74
49. On Hurtful Remedies in the Treatment of Pulmonary Phthisis. *M. Marchal (de Calvi)* 76
50. The Therapeutics of Pulmonary Consumption. *Dr. Hérard* 76
51. Ossification of the Lung in Phthisis. *M. Le Diberder* 79

(c) *Concerning the Circulatory System.*

52. On the Use of Nitrite of Amyl in Angina Pectoris *Mr. T. Lauder Brunton* . 82
53. Treatment of Diseases of the Heart. *Dr. S. O. Habershon* 84
54. Rupture of the Tricuspid Valves of the Heart from fright. *Dr. Alfred Hitchcock* 85
55. On the Influence of Contractions of the Orifice of the Pulmonary Artery upon the formation of Pulmonary Tubercle. *M. Lebert* 86

(d) *Concerning the Alimentary System.*

56. Treatment of Chronic Pharyngitis. *Dr. J. R. Black* 80
57. Treatment of Diarrhœa. *Mr. J. Johnson* 88
58. On the Treatment now used against the Hydatid Disease in Iceland. *Dr. J. Hjaltelin* 89
59. On the Treatment of Acute Idiopathic Peritonitis. *Dr. Duparcque* . . . 92

(e) *Concerning the Genito-Urinary System.*

60. On the Pathology of the Liver and Kidney. *Dr. George Johnson* 93
61. Note on a Case of Albuminoid Precipitate in the Urine. *Dr. Arthur Leared* . 93
62. Incontinence of Urine successfully Treated with Extract of Belladonna . . . 94
63. On the Pathology of Albuminuria. *Dr. M. Semmola* 94
64. Granular Kidneys; rapid Œdema of the Glottis. *Dr. Barclay* 96

(f) *Concerning the Cutaneous System.*

65. On the Treatment of Scabies. *Mr. Erasmus Wilson* 96
66. Treatment of Scabies. *Mr. T. W. Belcher* 97
67. Sulphuret of Calcium in Scabies 98

ART. PAGE
68. Itch in Delicate Skins 98
69. Case of Erythema Nodosum. *Dr. Henry Samuel Purdon* 98
70. Freckles 99
71. Impetigo. *Mr. T. W. Belcher* 99
72. Contagious Impetigo (*Phlyctenodes*). *Dr. Tilbury Fox* 101
73. Treatment of Pruritus 103
74. Case of Hæmorrhagic Diathesis. *Dr. Garrod* 104
75. Notes on Dracunculus. *Dr. Edward Waring* 105
76. On the Treatment of Psoriasis and Eczema by a Flesh Diet. *Mr. G. Passavont* 107
77. Case of Lupus Exedens: Mr. Bruce's Gas-Cautery. *Dr. Hillier* 109
78. Report on Syphilization 110
79. Cases of Syphilitic Alopecia treated with Mr. H. Lee's Mercurial Vapour-Bath. *Dr. J. Balfour Cockburn* 111
80. On the Difficulties in the Diagnosis of Skin Diseases; an obscure Case of long-standing Gangrenous Ulceration of a Syphilitic nature, complicated by Sycosis. *M. Guibout* 113
81. Case illustrating the Identity of Eczema and Lichen. *Dr. M'Call Anderson* . 114

Sect. III.—Forensic Medicine.

82. Poisoning from Croton Oil 115
83. On a Case of Bromine Poisoning. *Dr. Samuel P. Duffield* 116
84. On the Action of Sulphocyanide of Potassium. *MM. Dubrueil and Legros* . . 117
85. On the Poisonous Properties of certain Compounds of Cadmium. *Dr. Wilhelm Marmé* 117
86. Poisoning by Chloroform 119
87. Poisoning by Strychnine 119
88. Ophthalmology in its Relation to Legal Medicine. *M. Fano* 120

Sect. IV.—Therapeutics.

89. The British and London Pharmacopœias compared. For the use of Prescribers . 121
90. The Report of the Scientific Committee appointed to Investigate the Physiological and Therapeutical Effects of the Hypodermic Method of Injection . . . 122
91. Hypodermic Injections 122
92. Danger of Hypodermic Injection 123
93. On the Absorption of Medicinal Agents by the Mucous Membrane of the Nasal Fossæ. *M. Raimbert* 123
94. Subcutaneous Injection of Morphia in the Spasms caused by Gallstone. *Mr. Charles Robert Thompson* 124
95. Pepsine 124
96. Heat as a Means of Resuscitation 125
97. Decoction of Sage in Profuse Sweating. *M. Vignard* 126
98. The Action of Curara 126
99. Alkaloids of Cinchona Bark 127
100. On Pulverized Ether in the Treatment of Chorea. *Dr. Zemberlin* . . . 127
101. Extractum Conii—an uncertain Preparation 127
102. Obstinate Singultus Cured by Extract of Cannabis Indica 128
103. The Poisonous Action of Phosphorus 128
104. Uses of the Ether Spray 128
105. On the Curative Virtues of Milk. *Dr. John Tatam Banks* 129
106. The Gas-Cautery of Nelaton. *Mr. Holmes Coote* 129
107. A Substitute for the Stomach-Pump 130
108. Use of Azotite of Copper for Cancers 130
109. Soluble Glass Bandages. *M. Velpeau* 130
110. Dr. Marcet's Process of Artificial Digestion 131
111. Danger attending Eye-washes containing preparations of Lead 131
112. Opium in the Treatment of Ulceration. *Dr. J. Fayrer* 132

ART. PAGE
113. Does Belladonna produce a Rose-red Rash? *Dr. Henry William Fuller* . . 134
114. On the Inhalation of the Vapour of Chloride of Ammonia in its Nascent State. *Dr. Hermann Beigel* 135
115. On Hydrochlorate of Ammonia in Senile Gangrene. *Dr. Gru* 136
116. Medicines or Food that directly Promote Nutrition. *Dr. H. Bence Jones* . . 137
117. On the Efficacy of Mercury in the Treatment of Syphilis 138
118. On the Antiseptic Property of Alcohol in Fever. *Dr. Robert Barnes* . . . 140
119. On the Antiseptic Properties of the Sulphides. *Dr. Polli* 141
120. Antiseptic Properties of the Hyposulphites. *Dr. Constantin Paul* . . . 142
121. On the Action of Digitalis in the Febrile State, particularly in Acute Articular Rheumatism. *M. Oulmont* 143
122. On the Therapeutical Properties of Podophyllin. *Dr. Ernst Schmidt* . . . 144
123. The Application of Carbolic Acid to Surgery 144
124. On the Action of Carbolic Acid upon Organic Tissues. *Dr. Isodor Neumann* . 145
125. On the Anæsthetic Properties of the Tetrachloride of Carbon. *Dr. A. E. Sansom* 146
126. On the Action of Bromide of Potassium. *MM. Eulenburg and Guttmann* . . 147
127. On the Use of Bromide of Potassium and Bromide of Quinine in Nervous Diseases. *Dr. Liberali* 148
128. On the Action of Bromide of Potassium. *M. Laborde* 149
129. On the Action and Uses of Phosphate of Soda in Small Doses. *Dr. Wm. Stephenson* 150
130. On the Action of Crystallized Sulphate of Soda upon Specks on the Cornea. *M. D. de Luca* 151
131. Dr. Richardson on the Bichloride of Methylene as a General Anæsthetic . . 152
132. Deodorisers, Disinfectants, and Antiseptics 154

PART II.—SURGERY.

Sect. I.—General Questions in Surgery.

133. Clinical Lectures on the various Risks of Operations. *Mr. James Paget* . . 156
134. On the Prophylactic Treatment of Erysipelas and Purulent Infection in Surgical Wards. *M. Gosselin* 169
135. On the Treatment of Incised Wounds, with a view to Union by the First Intention. *Professor Syme* 170
136. On the Treatment of Wounds without Dressings, on Sutures and Acupressure. *Dr. G. M. Humphry* 171
137. The Dressing of Surgical Wounds:—Alcohol Dressings of Dr. Batailhé; Carbolic Acid Dressings of M. Maisonneuve; Glycerine Dressings; Elder-flower and Water Dressings: General Hygiène 174
138. The Means of Obtaining the Immediate Organization of Wounds, and, consequently, of Preventing most Traumatic Accidents. *M. Abeille* . . . 175
139. On the Application of Perchloride of Iron to Wounds made in Surgical Operations. *Professor Bourgade* 176
140. Sulphurous Acid as applied to Wounds and Sores. *Dr. James Dewar* . . . 178
141. On the Means of Avoiding the Accidental Complications of Wounds. *Professor Labat* 178
142. On the Successful Inoculation of a Simple Cephalic Chancre. *M. Rofeta* . . 179
143. The Influence of Inadequate Operations on the Theory of Cancer. *Mr. Charles H. Moore* 180
144. Relations of Cancer and Phthisis 183
145. Case of Tetanus. *Dr. Barker* 184
146. Ammonia in Traumatic Tetanus 185
147. On the Antiseptic Principle in the Practice of Surgery. *Professor Joseph Lister* . 185
148. Treatment of Anthrax in Subcutaneous Incision. *M. Guérin* 189
149. An Easy Method of taking Casts. *Mr. Lawson Tait* 189

Sect. II.—Special Questions in Surgery.

(a) *Concerning the Head and Neck.*

ART. PAGE
150. Experimental Contributions to the History of Glaucoma. *Dr. Wegner* . . 190
151. Case of Neglected Glaucoma: Iridectomy. *Mr. Bowman* 191
152. Calomel, Topically, in Ophthalmia 192
153. On the Treatment of Strabismus. *M. Xavier Galezowski* 193
154. A Modification of the Operation for Strabismus. *Dr. Richard Liebreich* . . 193
155. On the Treatment of Iritis. *Mr. Albert Mooren* 196
156. Iridectomy in Recurrent Iritis. *Mr. William Bowman* 196
157. On the Relative Value of Atropine and of Mercury in the Treatment of Acute Iritis. *Mr. T. P. Teale* 197
158. Report of a Case of Syphilitic Iritis. *Mr. Henry Power* 198
159. Ophthalmological Observations in Cholera. *Prof. A. v. Graefe* 199
160. On Simulation of Unilateral Amaurosis. *Mr. Alfred Graefe* 201
161. Case of Dislocation of the Eyeball through a Blow from a Cow's Horn. *Prof. v. Becker* 201
162. Case of Pulsating Tumour in the Orbit cured by Ligature of the Common Carotid Artery. *Mr. Joseph Bell* 202
163. A Case of Cysticercus Cellulosæ in the Interior of the Eyeball: Removal of the same by Operation. *Prof. Arlt* 204
164. On Catarrhal Inflammation of the Cavity of the Tympanum occurring in Young Persons. *Dr. Roosa* 206
165. Removing Indurated Cerumen from the Meatus Auditorius 207
166. On Obstructions of the Ear Passage by Ceruminous Concretions. *Dr. F. Böning.* 208
167. On the Treatment of Ozæna. *Mr. Christopher Heath* 209
168. On the Complications and Treatment of Fracture of the Cartilaginous Septum of the Nasal Fossæ. *Prof. Jarjavay* 211
169. On Dermoid Cysts of the Floor of the Mouth. *M. A. Paquet* 213
170. Cancer of the Tongue. 215
171. Ligature of the Lingual Arteries. *M. Demarquay.* 216
172. On the proper Means to lessen the Inconveniences resulting from Hæmorrhage in certain Operations performed upon the Face. *M. Verneuil.* 217
173. Wounds of the Internal Jugular Vein. *Dr. S. W. Gross* 219
174. On Alveolar-Dental Osteo-Periostitis. *Dr. E. Magitot* 220
175. Case in which a Penny Coin impacted in the Throat of a Child was Discovered and Removed by the aid of the Laryngoscope. *Dr. George Johnson* . . 220
176. Use of the Spray-Producer in Syphilitic Ulceration of the Throat. *Dr. Murchison* 221
177. An Hypertropied Cervical Gland treated by Injections of Iodine. *Dr. C. H. Marston* 222
178. Ulcerated Schirrhus of the Parotid and Submaxillary Glands: successful Removal of the whole Growth. *Prof. Otto Weber* 223
179. Fractured Jaw: profuse Hæmorrhage stopped by Digital Compression. *Mr. Maunder* 224
180. Fracture of the Sixth and Seventh Cervical Vertebræ. Death in Three Days. *Mr. Holmes Coote* 225
181. On the Indications for and against the Application of the Trephine in Traumatic Lesions of the Cranium. *Dr. Léon le Fort* 226
182. Local Anæsthesia in Otalgia. *Dr. Charles C. Shoyer* 226
183. Rodent Cancer. *Mr. Charles H. Moore* 227

(b) *Concerning the Trunk.*

184. On the Importance of Rest in Severe Abdominal Injuries. *Mr. J. R. Greenway.* 227
185. Multiple Fractures of the Bones of the Pelvis, with Dislocation of the Sacrum upon the left Ilium, and Laceration of the Urethral Canal in an Infant ten years of age. *M. Marjolin* 228
186. Sore Nipples 229

ART. PAGE

187. Umbilical Hernia 229
188. Considerations suggested by the study of One Hundred Cases of Stone in the Bladder of the Adult, recently Operated on. *Sir Henry Thompson* . . . 230
189. Median Lithotomy: no Incontinence of Urine: Recovery. *Mr. Maunder* . . 231
190. A few Remarks on the Safety of the Median Operation for the Removal of Stone from the Bladder, the Section being limited to the Membranous Urethra, with simple Dilatation of the Prostate Gland. *Mr. W. L. Crowther* . . 231
191. Starch Injections in Gonorrhœa 234
192. Blistering the Groin for Gonorrhœa 234
193. Oil of Sandal-wood in Gleet. *Mr. Berkeley Hill* 234
194. Old Stricture of the Urethra: Disease of the Bladder: Nephritic and Perinephritic Abscesses: Death: Autopsy. *Mr. Erichsen* 235
195. Lodgment of a Lead Pencil, upwards of Six Inches in Length, in the Bladder and Urethra: Successful Extraction through the Perineum. *Dr. Thomas Walter Jones* 236
196. The Interior of the Urethra viewed by a Magnesium Light. *Dr. E. Andrews* . 238
197. A Case of Elephantiasis Arabum successfully operated on. *Drs. J. S. Thebaud and Samuel Whitall* 238
198. Spontaneous Breaking-up of a Vesical Calculus: Iliac Phlebitis: Bilocular Bladder, &c. *Dr. Guyeniot* 244
199. On Incision of the Os Uteri and Mucous Membrane of the Body of the Uterus for the purpose of Relieving the Hæmorrhage produced by Subcutaneous Fibroid Tumours. *Prof. O. Spielgelberg.* 245
200. Treatment of Bubo 246
201. Ovariotomy Operations performed under the Influence of the Bichloride of Methylene 252

(c) *Concerning the Upper Extremity.*

202. Treatment of Whitlow 252
203. Amputation through the Forearm: Wound Healed by Primary Union. *Mr. Maunder* 255
204. On the Supposed Luxation of the Long Head of the Biceps Cubiti Muscle. *M. Jargavay* 256
205. Aneurism of the Right Subclavian Artery, treated by direct Pressure on the Arteria Innominata. *Mr. Porter* 257
206. Fracture of the Humerus above the Condyles, simulating Sub-luxation of the Elbow-joint. *Mr. Nunn* 258
207. Fractured Clavicle in an Aged Person, without visible sign 258
208. Removal of the entire Left Upper Extremity, including the Scapula and outer Half of the Clavicle. *Sir William Fergusson* 258
209. On the Diagnosis of Tumours of the Breast. *Mr. Thomas Bryant.* . . . 260
210. Sub-luxation of the Body of the Sternum. *Dr. Forster* 261

(d) *Concerning the Lower Extremity.*

211. Treatment of Varicose Veins by the Galvanic Current. *Dr. Jasche* . . . 261
212. A Case of Traumatic Aneurism successfully treated by Pressure. *Mr. Holmes Coote* 262
213. Large Aneurism of the Femoral Artery, successfully treated by Compression of the Abdominal Aorta. *Mr. George Lawson* 263
214. On a Case of Dislocation of the Hip-Joint into the Sciatic Notch, Reduced by the American Method. *Mr. Hector C. Cameron* 264
215. Compound Fracture of one Thigh-bone at the Junction of the Lower Epiphysis, and Simple Fracture of the other. *Mr. Gay* 266
216. Contributions to the Clinical History of Idiopathic Diffuse Osteomyelitis. *Dr. Ed. v. Wahl.* 267
217. Suppuration of Knee-Joint: Articulation laid freely Open: Recovery. *Mr. Holmes Coote* 269
218. Repeated Resection of the Knee-Joint 269
219. Case of Gunshot Wound of the Knee-Joint; Removal of the Ball from the Articulation; and Recovery. *Dr. Walter F. Atlee* 270
220. On a Case of Talipes Equino-Varus. *Mr. Frederic Clowes* 271

ART. PAGE
221. Sub-Periosteal Resection of the Os Calcis. *Mr. Thomas Annandale* . . . 273
222. Irreducible Backward Luxation of the Ungual Phalanx of the Great Toe of Right Foot. *Dr. Riget*. 274
223. Treatment of Ingrowing Toe-Nail. *Dr. Bailey* 275
224. Treatment of Corns. *Mr. Erasmus Wilson* 276

PART III.—MIDWIFERY.

Midwifery and Diseases of Women and Children.

(a) *Concerning Pregnancy and Parturition.*

225. On the Treatment and Cause of Difficult Labour in Pendulous Abdomen. *Mr. Robert Barnes* 277
226. On the Indications for Manual Interference and other Agencies in the Treatment of Abortions, with Cases in Illustration. *Dr. Humphry Sandwith* . . . 278
227. New Method of Delivery by the Practice of External Manipulation. *M. Kristeller* 280
228. Labour Obstructed by a Fibrous Band: Diseased Placenta. *Henry C. Rogers* . 281
229. Labour terminating in Expulsion of Hydatids. *Mr. Edward Crossman.* . . 282
230. Birth of Twins, connected together by their Thoracic and Abdominal Surfaces. *Dr. Scherer* 283
231. The Obstetric Hand. *Dr. Robert Barnes* 284
232. An Abnormal Twin-Birth (One Head Keyed by Another). *Dr. Theo. A. Tellkampf* 285
233. Extraordinary Case of Early Viability. *Dr. William Kennedy* 287
234. Soot-Tea in Uterine Hæmorrhage 287
235. Spasm of the Gravid Uterus. *Dr. C. B. Suckling* 287
236. On the Induction of Premature Labour by Injection to the Fundus of the Uterus. *Prof. Lazarewitch.* 289
237. On the Cephalotribe. *Sir James Y. Simpson* 290
238. The Cephalotribe. *Dr. J. Braxton Hicks* 290
239. Two Cases of Labour Illustrating the Use of the Cephalotribe. *Dr. J. Ringland.* 291
240. Cæsarian Section on account of a Fibroid Tumour Springing from the Posterior Wall of Pelvis. *Prof. Dohrn* 292
241. Objections to the Single-Curved Forceps, Short or Long. *Dr. Robert Barnes* . 293
242. Report of a Case of Retention in Uterus of the greater portion of the Skeleton of a Dead Fœtus for a period of Four Years. *Dr. Halley* 294
243. Extra-Uterine Fœtation treated by Abdominal Section: Recovery. *Dr. Braxton Hicks* 295
244. Cases and Remarks Illustrating the History of Pregnancy Complicated with Small-pox. *Dr. Robert Barnes* 296
245. A New Expanding Speculum, and a Self-Holding Tenaculum. 297
246. Delivery with Extensive Adhesion of the External Genitals. *Dr. P. Müller* . 298
247. Two Cases of Rupture of the Uterus. *Drs. Scharlau and Kaufmann* . . . 300
248. The Forceps. *Dr. Robert Barnes* 302
249. On the Induction of Premature Labour by the Douche. *Dr. Thomas Telford* . 303

(b) *Concerning the Diseases of Women.*

250. Obstinate Vomiting caused by the Presence of a Foreign Body in the Uterus. *Dr. James Blake* 304
251. On some of the Diseases of the Female Urethra and Bladder. *Dr. J. Braxton Hicks* 305
252. The Nature and Treatment of Puerperal Convulsions. *Mr. Arthur B. Steele* . 321
253. A Case of Puerperal Convulsions successfully treated by Chloroform and Induction of Premature Labour. *Mr. William Holme* 323
254. A Case of Metritis following Induced Abortion, and complicated with Scarlatina. *Dr. E. R. Hutchins* 324
255. Chronic Metritis. *Professor Scanzoni* 327
256. Epileptiform Neuralgia during the Puerperal Period: Epileptic Seizures; Phlegmasia Dolens. *Mr. C. J. Evans.* 327

ART. PAGE
257. Excessive Lactation and its Effects. *Dr. Graily Hewitt.* 328
258. Case of Extreme Anteversion of the Uterus cured by the Application of a Bag of Sand on the Hypogastrium. *Dr. Greenhalgh* 330
259. The Ether-Spray in Uterine Hæmorrhage 331
260. Selected Cases, demonstrating the value of Electricity as a Curative Agent. *Mr. Harry Lobb* 331
261. Case of Pelvic Cellulitis. *Dr. Greenhalgh* 332
262. The Diagnosis of Ovarian Disease 333
263. On Encysted Hydropsy of the Ovary, and its Surgical Treatment. *Dr. S. Laskowski* 334

(c) *Concerning the Diseases of Children.*

264. Clinical Papers on the Surgery of Childhood. *Mr. Thomas Smith.* . . . 334
265. Lancing the Gums in Childhood. *Dr. F. H. Thomson* 342
266. On the Treatment of Whooping-Cough by Inhalation of Bromide of Potassium. *Dr. Helmke* 342
267. On the Treatment of Empyema in Children. *Dr. Thomas Hillier* . . . 343
268. A Case of Obscure Infantile Cerebral Disease. *Dr. William M. Chamberlain* . 344

APPENDIX.

1. The Contagious Diseases Act in relation to the Civil Population 351
2. The Communicability of Cholera 352

HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*On the Inoculability of Tubercle.*

By M. HÉRARD.

(*Transactions of the Medical Society of the Hospitals of Paris. Archives Générales de Médecine*, July, 1867.)

M. VILLEMIN in a recent communication to the Academy of Medicine announced that he had been successful in inoculating rabbits with tuberculous matter taken from phthisical patients, and the following propositions were laid down by him:—Phthisis pulmonalis (like tubercular maladies in general) is a specific affection, and its cause resides in an inoculable agent; tuberculosis belongs to a class of virulent diseases, and ought to be placed in nosological tables by the side of syphilis, or perhaps nearer to glanders and farcy.

M. Hérard, desirous of verifying the experimental fact announced by M. Villemin, performed, in concert with M. Cornil, some inoculations. Seven rabbits, about the age of six weeks, were subjected to experiments. On two of these no inoculations were made; of the other five, three were inoculated exclusively with the matter of grey tubercular granulations, which were semi-transparent or opaque, of a yellowish colour, and taken from the peritoneum and pleura of a phthisical patient; the two remaining rabbits were inoculated with cheesy matter taken from the lungs, a material which is still believed by the majority of medical men to be the type of tubercle, but which according to MM. Hérard and Cornil, is really nothing more than the produce of a catarrhal pneumonia which has reached the retrogressive fatty stage (pneumonie caséeuse). The

inoculations were made twice on each rabbit, according to the recommendation of M. Villemin.

Two months after the first inoculation the seven rabbits were killed. The results of the examination of the organs were these:—

1. The two rabbits which had not been inoculated presented no lesion that could be attributed to tuberculosis.

2. The result was equally negative in the rabbits which had been inoculated with pulmonary cheesy matter.

3. Two out of the three rabbits inoculated exclusively with grey miliary matter (the third being reserved for a more prolonged experiment) presented in the lungs lesions that were manifestly tubercular, although but slightly advanced.

After having given some details of several lesions unconnected with tubercle which had been met with, and of the symptoms presented by the rabbits, M. Hérard asserted that "the preceding facts seemed to demonstrate, as has been pointed out by M. Villemin, that tubercle taken from man is inoculable in the rabbit. But, at the same time, they allow a distinction to be made (which is thought to be a capital one in the history of tuberculization) between the grey granulation, a specific and characteristic lesion of tuberculosis, and the inflammatory cheesy products which are developed in the lung about it. The former is inoculable; the latter, if M. Hérard's view is confirmed, is not." This distinction, founded upon many other observations, M. Hérard considers of real importance, and one which would serve to explain the contradictory facts which could not fail to be opposed to the experience of M. Villemin.

Art. 2.—*On the Use of Opiates in Continued Fever.*

By N. G. Mercer, M.D. Edin., formerly House-Surgeon to the Clayton Hospital and Wakefield Dispensary.

(*Medical Times and Gazette*, Sept. 28, 1867.)

Dr. Mercer places upon record the following case where the exhibition of an opiate had the happiest influence in checking the fatal tendency of typhoid fever. The patient was a pensioner, forty-seven years of age, and had been a great drunkard. His case was from the first attended with the gravest typhoid phenomena. Dr. Mercer had attended him for nearly two weeks, and the symptoms were growing daily more alarming, although an exception must be made in favour of an attack of bronchitis, which had been severe from the beginning, but had undergone partial improvement. The delirium had not abated for three days, and its active character frequently necessitated restraint to keep the patient in bed. The pulse rate had gradually risen in frequency, and had reached 144 per minute. Great wakefulness had existed from the first, but in the middle of the second week had become so extreme, that out of twenty-four hours scarcely a whole one of sleep was obtained as

the aggregate of many short-lived snatches. The bowels had been alternately loose and constipated, the evacuations invariably presenting the peasoup character. The following were the signs and symptoms present on the thirteenth day of the fever, on which, as determined by treatment, the turning point seemed to take place. The patient was almost completely deaf, and when asked in a loud tone to show his tongue, seemed to comprehend nothing. A view of it was, however, obtained by mechanically separating the jaws, and it was seen to be black-brown in colour and perfectly parched, while the teeth were covered with sordes. The respiration was hurried from the bronchitis, although this did not exist to the same extent as a few days before. The abdomen was litterally blown out with tympanitis; the patient was continually fumbling with the bed-clothes, and muttering inarticulate sentences. The evacuations were and had been involuntary for three days. During two entire days and nights, at the very least, his wife declared that the wakefulness had been without a moment's intermission. All the symptoms present in general, although this last and the existing character of the pulse in particular, indicated and warranted the experiment of an opiate. That character of pulse is hardly to be described; once felt it is perceived to be remarkable, and is not forgotten. In this case it was not possible to estimate the number of beats per minute, on account of its extreme rapidity, but chiefly—thus completely conforming to that description of pulse where opium is highly serviceable—because of its weak, fluttering, confused and indistinct character. The beats appeared to run into one another, without that appreciable interval present in all other variations of the pulse, whether in health or disease. Such are the circumstances under which we are culpable in withholding an opiate, as the last chance of saving our patient's life. A very mild one in this case was found sufficient to compass the object in view. A pill containing half a grain of opium was to be given at bedtime, and if this seemed to have the effect of slightly lessening the delirium and restlessness, a pill of like strength was to be administered in two hours. If a tendency to sleep happily supervened, the second pill was to be omitted.

From the very hopeless nature of the symptoms present on the afternoon when this treatment was adopted, the prognosis Dr. Mercer gave was to the effect that the patient would certainly die; and at his visit on the following day he did not dare to expect an improvement in the symptoms, although in cases less severe he was well acquainted with the beneficial influence of opium. Dr. Mercer's disappointment, however, was as great as it was agreeable. The patient's wife informed him that after giving him one pill only he showed a strong disposition to sleep in less than half an hour, and that accordingly the other pill had not been administered. Soon after he fell into a profound slumber, and at Dr. Mercer's visit he was calmly asleep. At intervals he was disturbed, in accordance with instructions, for the purpose of giving nourishment. Under the influence of the half-grain of opium, the pulse, too, had undergone a most notable change, having fallen to 132 per minute, and its beats having grown perfectly regular.

The subsequent history, which might be termed one of uninterrupted improvement, may be summed up in a few words. Ever since the

eventful night when the soporific was given, the patient enjoyed nightly a few hours of refreshing sleep. Delirium thereafter formed a very slight feature in the case, and his deafness also went gradually away. What tended chiefly to retard recovery was an immense sloughing bed-sore, which burrowed amid the muscles of the natcs, and exposed the crest of the ilium. Under suitable applications, however, this was, towards the close of the fourth week, converted into a healing, granulating ulcer. Ammonia and bark were early and freely given after the active symptoms of fever had abated, and he took daily after the third week three ounces of cod-liver oil with a keen relish and to his great benefit. Soon after Dr. Mercer lost sight of him, having been told at his visit that he had gone some miles into the country.

In conclusion, Dr. Mercer observes that this case, like many others of the same fever, refused to conform to that rule of limitation as to time which systematic authors speak of in this disease, while there could be no doubt whatever of its nature. Small opiates only were hazarded, on account of the degree of bronchitis present; but even these served to illustrate the salutary and beneficent agency of the narcotic, controlling irritability, adding force to the action of the failing heart, and well establishing the medicine's claim to be called, as it has been by Dr. Christison, the "best drug of all."

Art. 3.—*Cholera.—Treatment by the Bromide of Potassium. Recovery.*

Under the care of Dr. Sutton.

(*Medical Times and Gazette,* Sept. 28, 1867.)

The notes of the two subjoined cases were supplied by Dr. B. Woodman, Acting Resident Medical Officer, London Hospital:—

Henry S., aged twenty-three, residing at 14, Henry-street, White Horse-lane, Stepney. Works at a match factory on Bow Common. Had been ill two days before admission, which took place at 8 a.m., September 19. Temperature in axilla 96°; pulse 80, feeble, and barely countable; general aspect dusky and livid; skin of hands corrugated. Ordered milk, ice, and beef-tea. Severe cramps in extremities. 10 a.m.: Has been vomiting incessantly; pulse 120; respiration 30; temperature 97°. Has passed a rice-water stool in bed. To have ʒj bromide of potassium immediately, and ten grains every four hours. 8.20 p.m.: Hands still cold and wrinkled; body and feet feel warmer; has not vomited for an hour; breathes tranquilly (20 per minute); pulse 100; temperature 95·8°; lies on his back with his eyes half shut.

September 20.—9 a.m.: Pulse 106; respiration 20; temperature 97·2°. A very faint tinge of colour is found in the fæces, which are still watery. Has passed no urine yet. Evening: Pulse 100; respiration 24; temperature 97°. Vomits occasionally, but less than before. Bowels still loose, but motions bile-tinged.

21st.—Morning: Pulse 100; respiration 24; temperature 98°. Has passed about four ounces of urine, sp. gr. 1018, ammoniacal, containing albumen $\frac{1}{8}$th, and giving pigment reaction, as in former case. Evening:

Pulse 80; respiration 18; temperature 98°. Has made a pint of urine, similar to last. Bowels not open since early morning. To stop medicine.

22nd.—Passed a solid stool to-day of good colour. Pulse 80; respiration 18; temperature 98°. From this time convalescence is uninterrupted.

The bromide of potassium has been highly recommended as a remedy by Dr. Begbie.

The next case was that of a sailor, aged twenty-two, just returned from Colombo. He had been lodging for a week with some German sailors from Rotterdam. He was only ill twenty-four hours before admission. Suffered from colic, vomiting, and cramps. The stools were rice-water. When admitted he was livid and still vomiting, suffering from cramps and constant purging, but there was a faint tinge of colour in the watery stools. Pulse 120; respiration 30; temperature 98°. Ice and milk. About 9 p.m. his pulse could scarcely be counted; tongue and breath cold; voice husky. Pulse 124; respiration 28; temperature 97·3°. Has passed no urine yet. Purging continues.

September 20th.—Has vomited all night. Pulse 130; respiration 28; temperature 96°. To take potass. bromid. gr. x. 4tis horis. Evening: Pulse 100; respiration 20; temperature 96°. Has passed about six ounces of urine, sp. gr. 1015, acid, with no albumen, or only a trace, and a good deal of pigment.

21st.—Pulse 98; respiration 20; temperature 98°. Much better; no vomit; no stool; more urine, sp. gr. 1015, with albumen $\frac{1}{8}$th and pigment. Breath and tongue warm. Evening: Pulse 88; respiration 20; temperature 98·6°. Very much better; no more vomiting; has passed a solid stool. Discontinue bromide. From this time he rapidly improved, and is now convalescent.

Art. 4.—*Forms of Continued Fever, and their Definitions.*

By James Stark, M.D., F.R.S.E.

(*Edinburgh Medical Journal*, July, 1867.)

From the want of good definitions of the various forms of continued fever, many medical practitioners find themselves at a loss to distinguish one from another, and so confound all together. It is, however, very desirable that every one should be able to recognise all the several forms, as each requires its own special treatment. Despairing of the Royal College of Physicians of London completing the work, in which it has for years been engaged, and knowing how unwilling a public body is to commit itself in print, Dr. Stark has, on his own responsibility, drawn up the following summary of the forms of continued fever, and has appended definitions in such terms as have always enabled him to recognise them in his own practice. The distinctive names have been chosen as unlike each other as possible, inasmuch as great confusion occurs when the titles of the respective forms only differ in their

terminal syllables, as is the case when the terms Typhus, Typhia, and Typhinia are used.

First. *Typhus Fever* (also called spotted, maculated, low, putrid, brain, and nervous fever).—A continued fever, characterized by great prostration; with a mulberry or measly rash appearing early on the skin, *but not in successive crops*, and generally remaining visible during the course of the disease. Bowels generally confined, and no lesions therein found on dissection.

Second. *Enteric Fever* (also called typhoid, typhia, gastro-enteric, and gastric fever, abdominal typhus, and dothinenteritis).—A continued fever, characterized by rose-coloured spots appearing chiefly on the trunk of the body about the end of the first week, *and in successive crops*, each crop disappearing in three or four days. Bowels often loose, and stools light coloured. Enlargement and ulceration of the aggregate glands of the ileum usually met with on dissection.

Third. *Relapsing Fever* (also called short, or relapsing typhus, bilious typhoid fever, typhinia, and synocha).—A continued fever of short but varying duration, characterized in general by an absence of eruption, but by an intermission of all the symptoms, and an apparent temporary return to health for a longer or shorter period; by the fever relapsing after five to eight or more days, and by more than one relapse occurring before health is restored. Skin often dark, or more or less yellow. As occurs in intermittents, there is a strong tendency to enlargement of the liver and spleen.

Fourth. *Gastric Fever* (called also bilious fever).—A continued fever attended by gastric and biliary derangement, with no eruption, and no tendency to relapses. Skin often more or less yellow.

Fifth. *Simple Continued Fever* (also called simple typhus, and simple fever).—A continued fever, without eruption, and without a tendency to relapses

Sixth. *Febricula.*—A simple fever, without eruption, of from one to, at the most, three or four days' continuance.

Seventh. *Infantile Fever* (also called infantile remittent fever).—Fever occurring in childhood, characterized by daily exacerbations and remissions, with a tendency to diarrhœa. Cases of enteritis are often mistaken for this form.

Though these are the forms which prevail in this country, there is an eighth form, which is common on the continent of Europe, and which is the most fatal of all, usually cutting off 40 per cent of those it attacks, and proving fatal on the third or fourth day of the attack. This is the epidemic brain fever, or cerebro-spinal meningitis, so well known in Russia, Norway, Sweden, &c., and which constitutes no small portion of every epidemic of fever which attacks these countries. Occasional cases occur in this country; but we still want a good definition of the disease.

Art. 5.—*The Cryptogamic Theory of the Origin of Intermittent Fevers.*

(*British Medical Journal*, Feb. 23, 1867.)

The *Journal de Médecine de Bruxelles* contains a letter from Dr. Hannon, professor of botany in the University of Brussels, confirming the views recently promulgated by Dr. Salisbury, on the cryptogamic origin of marsh or intermittent fevers, but stating that the facts mentioned by the distinguished American physician had long been recognised in Belgium. "In 1843," says Dr. Hannon, "I studied at the University of Liége; Professor Charles Morsen had created in me such an enthusiasm in the study of the fresh-water algæ, that the windows and mantelpiece of my chamber were encumbered with plates filled with vaucheria, oscillatoria, and confervæ. My preceptor said to me: 'Take care at the period of their fructification, for the spores of the algæ give intermittent fever. I have had it every time I have studied them too closely.' As I cultivated my algæ in pure water, and not in the water of the marsh where I had gathered them, I did not attach any importance to his remark. I suffered for my carelessness a month later, at the period of their fructification. I was taken with shivering; my teeth chattered; I had the fever, which lasted six weeks."

Art. 6.—*Treatment of the Congestive Stage of Ague.*

By Dr. Porcher, of Charleston, S.C.

(*Richmond Medical Journal*, July, 1866; and *New York Medical Journal*, April, 1867.)

Dr. Porcher reports the most satisfactory results in lessening the intensity, if not in shortening the duration, of the congestive stage of intermittents, from a mixture of tinct. gentianæ, sp. æth. co. and tinct. capsici *æq. partes*. He says the efficacy of the subsequent anti-periodic treatment seems to be increased by the previous employment of this formula, for it is during the cold stage, in proportion to its intensity, that those morbid alterations occur which are productive of so much subsequent disturbance of the glands and excretory organs.

Art. 7.—*On the so-called Epidemic of "Malignant Purpuric Fever" in Ireland, as it occurred amongst the Troops.**

By Jeffery A. Marston, M.D., Staff Surgeon.

(*British Medical Journal*, July 6, 1867.)

Dr. Marston arranged his paper in two divisions. The first included a short medical history of the occurrences arranged in their chronological order; the second took note, from a clinical point of view, of the morbid phenomena presented by the cases respectively. The disease had been variously named "pestis," "malignant typhus," "cerebro-spinal typhus,"

* Read before the Epidemiological Society, July, 1867.

"malignant purpuric fever," &c. If the disease be essentially the same, although a variety of typhus, it is certainly not contagious as typhus. The facts, moreover, do not lend support to the supposition that it is a form of typhus. In the 22nd Regiment typhus had appeared among the men after the appearance of cerebro-spinal meningitis. The disease was observed in the following varieties:—1. The worst and most speedily fatal cases presented symptoms expressive of a profound blood-poisoning —the imperfect collapse, followed by a sopor and insensibility which speedily ran into coma; the paralysis of the pulmonary function; and the rapid appearance as well as the number and extent of the spots: these things left no room for doubt as to the formidable nature of the malady and the inadequacy of the cerebro-spinal meningitis to explain all its features. 2. As to the cases in which the symptoms of a cerebro-spinal inflammation were the most prominent, delirium and other manifestations of a disordered intellect were neither so common nor of such grave import as those symptoms referrible to the spinal system—the convulsion, the retraction of the head, the spastic contraction of muscles, &c.—and yet some of the best marked of these cases recovered. It is to be remarked also that there was no necessary relation between the occurrence, the number, or the extent of the spots upon the skin and the amount of intracranial and intraspinal mischief. In those cases which were very rapidly fatal, it may be that the morbid anatomist could not expect to find the same traces of disease or inflammatory action as in those less speedily fatal; yet a patient may perish after fourteen hours' illness, and indisputable marks of inflammatory action may be present in the meninges of the brain and spinal cord. In none of the fatal cases examined were these parts normal. There was excess of serous fluid, vascular congestion, or actual extravasation of blood present; and a careful analysis of the cases leads to the inference that it is to the presence of those fluids about the respiratory nerve-centres that the imperfect collapse and pulmonary distress are due. In very few cases indeed was there any manifestation of gradual deterioration of the health of those attacked. On the contrary, the suddenness of the seizure and the rapid progress of the case were generally remarked upon by those who recorded the cases. In the majority a marked functional disturbance of the gastro-enteric system was evidenced in the vomiting and purging which ushered in the graver symptoms of the disorder. The perspiration was found to be acid to litmus in one case. The urine was of light colour, of an average specific gravity of 1010, and non-albuminous in all the cases in which this was tested.

Art. 8.—*Malignant Purple Fever Epidemic in Ireland.**

By E. D. Mapother, M.D., Medical Officer of Health for Dublin.

The first case of this epidemic, according to the author, occurred in Dublin on March 18, 1866. The patient was a medical student, aged

* Abstract of a paper read before the Epidemiological Society on July 1, 1867.

19 years. *Malaise*, rapidly followed by vomiting and prostration, marked the onset of the disease. In little more than twelve hours, purple blotches appeared on the skin, stupor quickly supervened, and he died after twenty-six hours' illness. Other cases followed, and to the close of the week ending June 29, sixty-three fatal instances were registered in Dublin. The disease has been termed "black death," from the appalling rapidity of its course and the discoloration of skin; but Dr. Mapother holds this term to be highly inappropriate, as "black death" is one of the names used to designate the bubo plague of the 14th and 17th centuries. It has been designated also "black fever," "cerebro-spinal meningitis," "*méningite foudroyante*," and "malignant purpuric fever." To the author the word "virulent" seems preferable, as it pointedly indicates the blood poisoning, and the word "purple" is similar, though less technical, to "purpuric." Many deaths, in the London bills of mortality, were noted as "spotted fever and purples" down to the 17th century. "Petechial and spotted fever," the terms employed by American writers, are not distinct enough from ordinary typhus. As "pernicious fever," the disease was perhaps identified by the older French and Italian physicians, and the "febris scorbutica" of Sennertus (1654) was a similar if not an identical malady. The author suggested that if it shall be determined that the disease is a lesion of the nervous systems, ganglionic or cerebro-spinal, the term "neuro-purpuric fever" would be descriptive. Dr. Mapother described two types of the disease. In the graver, life is rapidly extinguished as if by a blood-poison; in the milder, the symptoms are those of inflammation of the cerebro spinal axis, or its membranes. Dr. Stokes regards these latter phenomena as secondary to the essential disease, and they appear if the patient lives long enough for their development. In the milder form the cases approximate closely to the form of the disease (cerebro-spinal meningitis) observed in Prussia in 1865. It is a noteworthy fact, that during the past eighteen months a very fatal purpuric disease has been rife among pigs in Dublin. Dr. Mapother thinks that there is much resemblance between this epizootic and human purple fever. Mr. Hugh Ferguson, the veterinary officer of the Privy Council for Ireland, states that "purples" among pigs was very prevalent during 1846, when cerebro-spinal meningitis was epidemic at Dublin and Belfast. Dr. Mapother referred briefly to the histories of previous epidemics of cerebro-spinal meningitis on the continent and in the United States, and concluded with a few observations on the nature of the disease. The rapid form, with purple blotches, and without cerebro-spinal symptoms, is, he thinks, certainly a zymotic or blood-poisoned malady; but that the other type, characterized by positive signs of cerebro-spinal lesion without the blotches, is due to the same proximate cause he was not convinced. On the other hand, no inflammatory lesion of any organ whatever could be so acute as to kill in five hours. In his last weekly report Dr. Farr has given the leaven of an important question—namely, "Is the purple fever only typhus seizing the scorbutic?" The high price and recent scarcity of potatoes, and increase of scorbutic and purpuric affections in England and Ireland, and the period of occurrence of purpuric fever, would tend to induce an affirmative answer. The occurrence of the disease among the well-to-do

is an objection more apparent than real. Dr. Mapother stated a case of purpuric fever, the patient being a cook in a large establishment. It was proved that she persistently avoided vegetable food. Scurvy is, of all maladies, the most asthenic, and one may well believe that a sufferer from it receiving typhus poison would sink at once, no time being afforded for elimination of the poison, as we see occasionally in virulent cases of scarlatina. If, as Dr. Murchison has contended, epidemic cerebro-spinal meningitis is but a form of typhus, it is not surprising that in Ireland it should be attended more frequently by cutaneous blotches, seeing that petechiæ are much more frequent in the typhus of Ireland than elsewhere. The faulty diet of the poor may account for the greater frequency of this blood condition. As to treatment, Dr. Mapother said that if there be vaso-motor depression, ergot in simple doses, belladonna in grain doses every second hour, and perhaps cantharides, are worth a trial, as they are contrary in physiological action. Alcohol and digestible nutrients, such as a solution of beef in dilute hydrochloric acid, might give aid, and the hot air or cotton-bath might tend towards cutaneous elimination. As to prevention, although Dr. Mapother saw no reason to believe that the disease was communicable, he directed disinfection of rooms and clothes, and isolation of the patient as much as possible.

Art. 9.—*On the recent Outbreak of "Febris Nigra" in Dublin.*

By Robert D. Lyons, M.B., Dublin.

(*British Medical Journal*, July 6, 1867.)

At a meeting of the Epidemiological Society on July 1, Dr. Lyons communicated the notes of several cases, and exhibited specimens of the spinal cord from two cases. He proposed to designate the disease "*Febris nigra.*" He believed that the malady is allied to yellow fever, cholera, and in a certain sense to typhus, and to other diseases in which, without necessary physical lesion, a profound prostrating effect is exercised on the nervous centres, and through these on the blood. As to the causation of the disease, he referred to the general sanitary state of Dublin, which he described as bad as bad can be. When cases of this disease occurred in 1866, Dr. Lyons called the attention of the Lord-Lieutenant and local authorities to them as an indication of a marked change in the epidemic constitution, and predicted an epidemic possibly of cholera, which came in due time. This year he made a similar prediction, and he remarked that at least one case of cholera had already occurred in Dublin.

Dr. Edwards Crisp related the circumstances attending a case of purpuric fever which had occurred at Chelsea on the 16th June. There was no doubt it was a case identical in nature with the cases described by Dr. Mapother, Dr. Marston, and Dr. Lyons. He dwelt upon the purpuric affection observed among pigs in Dublin, and offered some

suggessions for the experimental study of both the human and brute purpuric disorder.

Mr. Heather Bigg briefly stated certain facts respecting a rapidly fatal case of purpuric disorder which had occurred on the 26th ult. in Bethnal Green, the circumstances having been mentioned to him in a recent conversation with Mr. Humphry, the coroner.

Dr. J. Burdon Sanderson expressed some surprise at the suggestion of Dr. Mapother, that there might be two diseases confounded together in the recent outbreak in Dublin—a malignant typhus and cerebro-spinal arachnitis. Both forms of disorder insensibly passed the one into the other; the analogy of the virulent form with typhus had no existence in fact either as to the course of the disease, eruption, or post-mortem appearances. The conclusion rather was that we had to do with different grades of the same disease. He expressed regret at the paucity of post-mortem examinations, but thought that the general symptoms afforded strong grounds for the belief that the disease was identical with cerebro-spinal meningitis which had been observed in Prussia in 1865. He read a note from Dr. Stokes, descriptive of the different forms of the disease which had occurred in Dublin.

Dr. Marston remarked that the opinion that the malady might be typhus in a scurvy-affected subject clashed altogether with experience. Typhus in the scurvy-stricken had been largely observed in the Crimean war, but no such symptoms had been manifested as were observed in the purpuric fever of Dublin. There was an entire absence of evidence to attach any of the phenomena of the disease to scurvy, and the opportunity for ascertaining the fact had been largely furnished during the late war in the United States. The question was one, however, not to be lost sight of.

Dr. Camps pointed out the dissimilarity of the disease from the specific fevers with which we are acquainted.

Dr. A. P. Stewart, as showing the difference of typhus from the malady in Dublin, remarked that the latter carried off large numbers of well-to-do people. More than one-third of the cases in Dublin, he observed, occurred in the better parts of the city. In America, also, the well-to-do suffered equally perhaps with the ill-to-do. No proper typhus eruption had, moreover, been noted. In scurvy no form of disease like the Dublin disease had hitherto been noticed; and in diseases affecting persons affected with scurvy no like series of symptoms had been recorded. Our familiarity with the course of the latter disease, under many and varied circumstances, would lead to the conclusion that the purpuric spots in the Dublin disease owned some other origin. Dr. Stewart had seen within the last two years, in many cases of disease, and especially in rheumatism, copious dark purpuric blotches. He had noticed the same phenomena in 1858. During the last three or four years, in fact, he had observed a purpuric tendency in several maladies; and he was inclined to think that in the Dublin affection, the purpuric spots were not characteristic of the disease, while the lesion of the cerebro-spinal centres was. In the majority of the cases he had seen, there were indications of morbid action in those centres.

Dr. Yandell (United States) observed that, although he had not had an opportunity of witnessing cerebro-spinal meningitis, the spotted fever of some American authors, he had during the war seen thousands of cases of scurvy among the troops at Corinth. Nothing, however, like "spotted fever," or comparable to that disease, came under his notice, although the disease so called prevailed in other localities, and especially among the Federal forces. Very many men were lost from scorbutic diarrhœa. He gave some details, also, of epizootics in Tennessee.

Dr. Bowen referred to the title "Black Death," which had been adopted by some to designate the malady in Dublin, and observed that it was a singular coincidence that the same plague was reported to have broken out among some of the tribes on the banks of the Euphrates.

Dr. Trader (United States) had seen several sporadic cases of cerebro-spinal meningitis, but had never had the opportunity of witnessing the disease in an epidemic form. He had been led to form the opinion that the petechial spots were not characteristic of, although frequently accompanying, the disease.

Dr. Jenner remarked, as regards typhus and the Dublin disease, that, while the latter affected children much and was very fatal to them, children rarely suffered from typhus, and the latter disease still more rarely killed them. The difference was startling. Again, in typhus, a deposit of lymph about the brain was so rare an occurrence that he had never seen a case in which it had occurred; such a deposit appeared to be characteristic of the fully-developed Dublin disease. The latter disease in fact, taking it to be a disease *sui generis*, had a close analogy to all diseases of its order. It will kill suddenly; so will small-pox and scarlet fever; typhus rarely. And when the last-named diseases kill suddenly, as in the Dublin disease, they exhibit much petechial eruption, purpuric spots and blotches, and even hæmorrhages from the nose, mouth, and bowels. If the blood-poison kills the patient at once, the special lesion of the disease is masked or undeveloped. If the blood-poison do not kill at the outset, the characteristic lesion is developed, and should the disease in the end prove fatal, kills the patient. The names which had been given to the Dublin disease since its appearance were gratifying, as far as they indicated the activity of thought with which the new to us and as yet ill comprehended malady was regarded. The name by which the disease was best known (cerebro-spinal meningitis) was bad, but the new names proposed were worse. "Purple fever," "purpuric fever," were names better applicable to certain forms of continued fever, and which it would be impossible to limit to the disease under consideration. The terms "malignant purpuric fever" and "neuro-purpuric fever" exaggerated the erroneousness of the previous terms. "Cerebro-spinal typhus" was a still worse term, as it was undesirable to attach a definitely understood word like "typhus," to a disease which was imperfectly known, and which had certainly little in common with typhus. "Black fever" was an equally unsatisfactory name, and might with as much justice be applied to other forms of disease.

Art. 10.—*On an Epidemic of Cerebro-Spinal Meningitis.*

By G. M. Lowe, M.B.

(*The Lancet*, June 29, 1867.)

The cases of this "new disease" of which Dr. Lowe was cognisant were characterized by severe rigors, tetanic convulsions, intense neuralgic pain in the head and upper part of the trunk, obstinate vomiting, and restlessness. None of these cases were fatal, and none presented petechiæ on the surface.

The symptoms were undoubtedly those of cerebro-spinal meningitis, and their similarity to those which characterized the North German epidemic, as described by Dr. Aitken, struck Dr. Lowe as a remarkable circumstance, and therefore he took careful notes of each case.

The first case described by Dr. Lowe was that of Mrs. C——, the widow of a farmer. She was about thirty-five years of age, had had no children, and, though not very robust, always enjoyed good health up to the time of this attack. She was living in a large farmhouse with some relatives, when she was seized with severe rigors, followed by intense pain in the head, accompanied with bilious vomiting. She was ordered an effervescing draught with hydrocyanic acid every four hours; and, *as cold seemed to increase the pain*, hot *dry* bran-bags were applied over the whole scalp. Under this simple treatment she soon rallied, the sickness abated, and the pain was relieved. A quinine mixture and a few days' rest appeared to perfect a speedy cure; but on the 19th of February, exactly three weeks from the first attack, the rigors again returned, the cephalalgia was even more intense, and tetanic convulsions occurred, giving way to distressing vomiting of a bilious character. A few hours afterwards Dr. Lowe found her in bed, lying flat on the back, and in a state of complete exhaustion. She was uttering a low moaning sound, and only indicated by signs that the head was the chief seat of pain, and almost shrieking out when the chest and upper part of the spine were touched. This hyperæsthesia was greatest over the whole scalp, upper part of the thorax, and the spine as far down as the seventh cervical vertebra, below which point the pain became less intense. The skin was pungently hot over the trunk, but the extremities were cold; the pulsations at the wrists were very weak, 96 per minute; the eyes were half closed, very intolerant of light; and their pupils were markedly contracted; the bowels were somewhat constipated; the tongue was loaded with a yellowish fur, but red at the tip and edges. There was considerable pain over the epigastrium on pressure, probably from the vomiting; and menstruation was reported to have been regular. The effervescing mixture with hydrocyanic acid was again ordered, with the addition of half-drachm doses of the tincture of henbane, hot *dry* bran-bags were carefully applied over the scalp, a blister was placed on the nape of the neck, and sinapisms to the calves of the legs, as well as hot-water bottles to the feet.

She passed a very restless night, the vomiting occurring at intervals, and the pain still continuing very severe. The bowels were relieved by

a gruel and castor oil injection, and a mustard poultice was applied to the pit of the stomach. She was ordered ice to suck, and brandy and beef-tea every two hours. The pulse was now very weak, 80 per minute.

In the evening the pain was considerably lessened, and the vomiting had entirely ceased. The pulse was 70. As she could not take anything by the mouth for fear of the sickness, nutrient enemata were administered, and a pill of five grains of henbane and half a grain of camphor was given.

On the 21st Dr. Lowe found she had passed a better night, had dozed at intervals, but the pain over the chest was still so great that she could not bear the slightest touch, and she experienced cramp-like pains in the limbs. He now ordered her a pill of the extract of Indian hemp and belladonna to be taken with each dose of the mixture. The pulse was now only *fifty-eight* per minute, and very feeble. The nutrient enemata were therefore given every two hours, and brandy was administered by the mouth.

On the 22nd she was much better, and began to take her beef-tea naturally. She felt no pain excepting when she tried to move. Pulse, 60.

23rd.—Was much better. Pain in head appeared to be worse towards the evening.

25th.—Pulse 78, of better strength. Expressed herself more cheerfully, but said she dreaded the approach of night, as the headache was much worse then. She was ordered a quinine mixture; the pills to be continued.

On the 28th the patient had slept very well during the night, and felt very comfortable.

She continued to improve gradually, but appeared very anæmic, the *bruit de diable* being very distinct; but on the 8th of March she experienced a slight relapse, which rapidly yielded to the same remedies. Her convalescence, however, has been very slow, and she is still in a very delicate state of health.

The only other case noticed by Dr. Lowe is that of a railway porter, aged about forty-four years, a strong, robust-looking man, who was seized on the 22nd of February with severe rigors and violent pain in the head, with obstinate vomiting. He had the same intense pain over the chest and spine as in the previous case, but there were no tetanic convulsions, and no petechiæ were visible. The pulse was very rapid, the tongue loaded with fur, and the bowels constipated; the extremities were cold, whilst the skin of the body was pungently hot; the pupils were contracted, and the conjunctivæ congested. The same remedies were used as in the former case, and the symptoms gradually disappeared. Recovery took place very slowly, and the man—a steady, industrious fellow—remained a considerable time off work.

Art. 11.—*Report of Five Cases of Cerebro-Spinal Meningitis.*

By Henry Gray Croly, F.R.C.S.I.

(*Medical Press and Circular*, June 5.)

Case 1.—A young gentleman, aged sixteen years, previously healthy, ate heartily on Saturday, 17th March, 1866, went to Castle-yard to hear the band play, and was in high spirits; went to a dancing academy on same day, and danced every dance; passed the evening out, and drank some beer, but ate no supper.

Sunday morning, March 18th.—Looked pale, and refused breakfast; said he would not go to church, but would go to meet some friends at St. Patrick's, at three o'clock, by appointment; did not go, however; had shivering fits; went up to bed, and ate no dinner; complained at night of headache, and talked incoherently occasionally; said his throat felt sore; his stomach became irritable, which was soon followed by vomiting; conjunctivæ slightly injected; drank some tea, but vomited it almost immediately. His pulse became quick, and there was a heavy smell from him (which he noticed himself). On examining his throat, it was observed to be slightly reddened. A few spots resembling purpura were remarked on his arms, and similar spots were found to exist on the abdomen and thighs. He had no bleeding from the bowels, gums, or nose. He drank some claret; said it hurt him to swallow; throat brushed with sol. of nit. of silver.

At 12 o'clock the black spots became *broad patches*. I at once sought the advice of Professor Benson, who came with me, and advised a continuance of the claret.

I remained with the patient all night. He was restless, and raved a great deal, but slept some; drank a bottle of claret.

At eight o'clock a.m. said he felt better; drank some tea; his pulse became very rapid; temperature of body high; black spots appeared on his nose and face, and looked as if a quantity of black ink was spilled over his face; he passed no water during the night, but his bladder was not distended.

Catheter introduced. About 4 oz. of natural urine drawn off. He complained now of pain in his left wrist. His pulse rose rapidly to 160; temperature of body continued high. He became suddenly insensible, and died at five o'clock. Duration of illness about thirty hours.

Black spots became larger, and before death were continuous on his arms, like gangrene.

Treatment.—Brandy, beef-tea, and quinine injections; brandy, turpentine, and tr. iron by mouth.

Case 2.—J. D., a fine, healthy young man, aged twenty-two years, residing near James's Street Harbour, by occupation a labourer; was in excellent health, ate his breakfast heartily, and went to work as usual on Saturday, July 14, 1866. At one o'clock he returned home and complained of severe headache and pain in his back; asked for a hot drink, lay in bed, and slumbered till six o'clock; took a dose of Epsom salts by the advice of a woman in the house; he vomited the medicine, and had a slight attack in his bowels; had his feet bathed, passed a most restless night, took a little punch. At seven o'clock on Sunday morning (15th inst.), black purplish spots appeared on his nose and face; similar spots appeared on his arms.

At half-past eleven o'clock he died. A medical gentleman, living in the neighbourhood was called in on Sunday morning, but the man died ere he reached the house. Duration of illness 22½ hours.

Case 3.—A. B., aged nineteen years, a student in medicine, on Monday, April 1, took rather violent exercise. That evening he felt tired and went to bed early, but was all right the next morning. On Wednesday, the 3rd inst., he was in very good health, and ate his meals very heartily. At night he complained of some soreness in his throat, but it was all gone the next morning. On Thursday, 4th inst., he got up to his breakfast, and ate it as usual. None of the family saw him that morning until he returned from hospital. While at hospital he said that he had got an attack of influenza, and was altogether knocked up. He did not go up into the wards, but sat at the fire in the resident's room until after the morning visit. He got a dose of James's powder at hospital, which he brought home with him. He told several of his friends that he felt an *all-overness*. His uncle noticed a red spot in the corner of his right eye. He went to bed at two o'clock, and took some gruel, but vomited immediately after. At seven o'clock he took the James's powder. This put him into a great perspiration. He was very thirsty during the night, and drank some lemonade and water. He vomited frequently in the morning. He said he spent a very long, tiresome night, and slept very little. At about eleven o'clock on Thursday night he himself noticed some darkness on the upper lid of his right eye, and made the remark that he hoped his eye would not be injured. Friday morning he felt pretty well while lying down, but his head *pained* if he attempted to sit up. He took some tea, but threw it up immediately after. The lid of his eye had become much darker in colour.

Friday, April 5, eleven o'clock a.m., I saw him for the first time; he was supposed to be asleep; lying on his right side; respiration rapid; pulse rapid and feeble; coldness of hand; reddish mottling on face; ecchymosed appearance of eyelid; on stripping patient I observed dark spots of irregular shape, some small, like ordinary purpura, and others large and of more violet hue; pupil small. I tried to get him to speak to me, but could not succeed; he soon became restless and moaned; his friends could not at first believe he was insensible, as he spoke to his aunt a few minutes before my arrival, and asked her to sit down; bladder not distended; bowels have been moved during night; he slept none; the abdomen soft; vomited frequently before I saw him. I at once announced the case as one of those called Black Death, or "Malignant Purpura" (which I consider a better name), and informed his friends of the extreme gravity of the case, and the certainty, so far as I believed, of its fatal termination.

I applied hot jars to the feet, administered brandy and ether by the mouth, but patient could only succeed in swallowing a small quantity.

I injected brandy, ether, carb. of amm. and beef-tea in small quantities and at short intervals.

He soon worked violently in convulsions, and would have fallen out of bed but for being held; upper extremities chiefly affected about half-past twelve o'clock, and head tossed about; left conjunctiva much congested; eyes half open; spots on legs and thighs larger and more irregular. He appeared to suffer much from spinal irritation, though at no time was the head actually thrown backwards. He sank rapidly, and died at half-past two o'clock. (Duration of illness thirty hours.)

The case was seen by Dr. Geoghegan about twelve o'clock, by Dr. Stokes about one, and by Dr. Benson at half-past one.

At Dr. Stokes' suggestion I added ten grs. of musk to each injection, and five drops of laudanum.

Case 4.—Anne Gill, 4, Hanbury-lane, aged two years, died Friday, April 26th, of ten hours' illness.

History.—Her father states the child was in good health until four o'clock on Thursday evening, the 25th instant, when she was attacked with vomiting and purging, convulsions set in about an hour and a half before death, spots appeared (the left hand and *arm only* were convulsed).

Purplish spots appeared on her face, and some on her arms, andall over her body; the spots increased in size and number after death; none of the people in attendance ever witnessed anything like the disease, but the father took it to have been the measles.

Case 5.—Marianne Byrne, aged twenty-one years, always healthy and strong, resided in 48, James's-street, was attacked on Tuesday night (at half-past eight o'clock), 13th May, with severe rigors and coldness of the surface of her body; she vomited repeatedly a slimy yellow matter; the vomiting continued until four o'clock in the morning. She had one motion from the bowels during the night.

Diarrhœa then set in, and the bowels moved at least ten times. All day, Wednesday, 14th inst., she suffered from severe headache and pain in her back; blue spots, which soon became black, appeared on Wednesday on her legs; surface became colder; she died in convulsions, with the head *forcibly thrown back, at twelve o'clock on Wednesday night.* (Duration of illness twenty-eight hours.)

Shortly before death black spots appeared on her arms.

There were some on her face also.

Art. 12.—*The Epidemic of Cerebro-Spinal Typhus in Ireland.*

From a Correspondent.

(*Medical Times and Gazette*, May 25, 1867.)

Although we have suggested the above title for this disease, it must be admitted that in many respects it differs from typhus in the ordinary form—in none more so than in the extremely rapid development of the eruption, which has been noticed as appearing within a few hours of the first accession of the nervous prostration which ushers in the disease; and in some cases of recovery, or in those in which life has been sufficiently prolonged for the maturation of the morbific action, or rather for nature to exhibit the process by which she struggles to eliminate the zymotic poison from the system, the livid ecchymosed spots take on a gangrenous action, thereby producing a degree of constitutional irritation under which many of the cases succumb. The absence of any affection of the lymphatic glandular system would go far to prove that the title of "pestis" is misapplied. Besides, we have not heard of any cases in which epistaxis, mentioned by Sir Samuel Baker as one of the most important initiatory symptoms of the true Egyptian disease, and as generally betokening a fatal result, has appeared. The term "purpura maligna" we also consider to be incorrect, as, according to the system of nosological nomenclature now prevailing (which, not-

withstanding its many defects, is the officially recognised guide in these matters), the disease is thereby removed from the order "miasmatic," to which we consider it to belong, to the order "dietetic," thus indicating, as it were, that its etiology is to be found in some error in diet—a theory for which we need hardly say there appears to be no shadow of foundation.

Another remarkable peculiarity is the extreme rapidity with which in some instances pus, or, at any rate, degenerating lymph, can be deposited on the membranes of the brain and upper part of the spinal cord. In one of Dr. Gordon's cases, which terminated fatally in five hours, and which he considers to be the most rapidly fatal case of the disease on record, this deposit, and the generally inflamed state of the brain membranes, were very marked.

On the other hand, in one case at least of which we have heard, in which death occurred in sixteen hours, there was only observed a somewhat increased vascularity of the brain membranes, with slight increase of the quantity of subthecal fluid. As in all other cases of blood poisoning followed by rapid death, the blood in the heart and pulmonary vessels is found dark and fluid.

On the question of the contagious nature or otherwise of the disease, we must wait for further grounds on which to form a decided opinion. In a notice of a French epidemic it is stated that no grounds existed for supposing that the disease was contagious; but we have been informed of some instances of the disease as at present in Ireland in which its communicability through fomites appears indicated. Suffice it to say, for the present, that it is an adynamic fever of the typhus order, and that as such, until the fact be established to be otherwise, all usual precautions should be enforced to prevent its spread by contagion.

On the subject of treatment we can of course have but little to say. In the French epidemic, large bleedings in the early stage of the disease were the only means of treatment attended with success; and after the stage of excitement had passed, blisters to the head were found to be attended with benefit. Emetics, purgatives, calomel and opium, mercurial frictions, quinine, *et hoc genus omne*, were freely employed. Dr. Gordon, in the treatment of his cases, appears to put most confidence in the exhibition of nervine stimulants, with prompt and powerful counter-irritation of the scalp in the early stages, followed by general support of the system and the cautious use of stimulants; he also appears to think that benefit has followed the use of quinine, with small doses of the extract of belladonna.

[We have received from Ireland an account of the case of a man who died during the past week of the disease our correspondent has been describing. His illness commenced with shivering, pain in the head, and pyrexia. About the middle of the day livid spots began to appear on the integument, and continued to increase in number until his death, which took place at midnight of the same day. Death was preceded by symptoms of coma. At the post-mortem examination the brain substance was discovered to be much congested; a layer of lymph was found upon its surface, and the ventricles contained about a drachm of fluid; the thoracic organs are merely stated to have been much congested.]

Art. 13.—*A short General Account of the Epidemic of Fever at Mauritius.*

By Wilmot H. F. Power, B.A. Lond., Assistant-Surgeon to the 2nd Batt. 13th Light Infantry.

(*The Lancet*, August 17, 1867.)

In this paper Mr. Power gives a view of the nature, causes, extent, and treatment of the epidemic. The disease was neither a malignant, a typhoid, nor a yellow fever, but a *malarial form of fever*, and mainly *of the intermittent type.*

Causation.—Taking the usually accepted factors in the generation of malaria, Mr. Power says: We find the hot and rainy season of 1866-67 in Mauritius to have been characterized by unusually high and prolonged temperature, with an unusually small rainfall, acting on undrained soil full of decomposing vegetable matter, or on streams which were in reality ponds. This amount of decomposing vegetable matter has been always present, but this year, apparently, it was first exposed to the influence of sufficient heat, &c., to form the malaria. It may be a question, too, whether, owing to the large amount of forest that has been cut, a greater surface of undrained soil was exposed to the high temperature than was the case only some fifteen or twenty years ago. This is, Mr. Power believes, the first time that malarial fever has broken out (to any extent, at least,) in Mauritius; and he supposes the case is almost unique—namely, the appearance of a non-contagious fever (endemic in a large portion of the globe), for the first time, in a portion only of a small island near no extent of land, and, moreover, an island exposed for seven or eight months in the year to the cool south-east trade-wind, the only other winds being, as a rule, the usual local land and sea breezes.

Causes of its fatal character.—Mr. Power has no doubt these were, (1) the want of quinine; and (2) the want of regular medical attendance, of proper nursing, of food, &c. (He might add a third reason—namely, the opinion published in one of the local papers by, he regrets to say, a medical man, that he had found *very* large doses of quinine caused dysentery and other internal disorders, and that he never used it; being content with a mercurial purge, followed by ammonia mixture!) Comparing the mortality of his regiment with that of the civil population for the three months, January, February, and March: Among a strength of 673 men with some 540 admissions from malarial fever, none died; and of 44 women and 79 children, one infant only died. (These figures refer only to the three months above specified, and while the regiment remained in Port Louis.) The exact number of the civil population who died during this time cannot be told, as it was only from the beginning of February that exact mortality returns were made; but it will suffice to say that many thousands died. These figures, Mr. Power thinks, go far to prove the causes he has given above for the fatal character of this disease; and that the slight mortality amongst the men, women, and children of this regiment was due to a greater amount of medical atten-

dance (the surgeon and himself), with nursing, food and stimulants. These the mass of the poor civil population did not receive, in spite of the unwearied labour of the medical men.

At the end of March Mr. Power saw a gentleman who had been ill with fever some days. His regular medical attendant had been unable to see him for two days. He had been taking a small quantity of ordinary claret, with a few grains of quinine, for that time, and had taken no food. When Mr. Power saw him he had fever, with low, wandering delirium, &c. *A large dose of quinine he gave at once*, and ordered the usual stimulants and plenty of sherry. He saw this gentleman some weeks afterwards, well: he had recovered from the day of his visit.

To give one more instance. Mr. Power was called to see a strong, hearty Englishman, in good circumstances, who had been only about a year in the island. He found him dead in his room, while in the adjoining room was another, who, hearing his friend groaning during the night, got out of bed, but fell down on the floor (he had the fever also), and remained there till put to bed again next morning by some friends who came in. These two men had no servants; they were dead or had run away. Mr. Power is perfectly certain that, with a proper attendant to give him medicine, &c., that man would not have died. He had been up and about the day before, and went to bed saying he was much better, and felt no more fever. He was not in the slightest degree emaciated or cachectic.

Treatment.—Mr. Power's treatment was simply quina in full doses (as a rule, eighteen to twenty-four grains were sufficient) during the intermission or remission, but giving it at once if dangerous prostration with a tendency to coma were present. He differed from, he believes, most English authorities in giving it in the form of pill, as he found it was retained better in that form in cases where there was gastric irritability, also because it had to be given as carefully as possible for fear of running short of it, and in the form of pills it was far more convenient to carry round with one to administer to 200 or more patients than in mixture. Ordinary diuretics were given, but not as a matter of routine; a good purge in some cases, with nitrate of bismuth to allay the vomiting. He seldom gave an emetic unless in the case of a man who had been drinking hard shortly before his seeing him.

Art. 14.—*Report on Cholera, with Remarks.*

By Drs. Hayden and Cruise.

(*Dublin Quarterly Journal of Medical Sciences*, May, 1867.)

Subjoined is a brief summary of the principal conclusions deducible from a very elaborate report by Drs. Hayden and Cruise, in which are given the details of 197 cases of cholera admitted into the Mater Misericordiæ Hospital, treated by these physicians, or under their immediate direction, between 17th August and 17th December, 1866:—

1. The diarrhœa so prevalent amongst the inhabitants of localities

actually suffering from cholera is a premonition, and the earliest manifestation of cholera.

2. Cholera is a disease strictly preventible by sanitary and hygienic measures, and in nearly all cases curable in the stages preceding actual collapse.

3. The treatment which Drs. Hayden and Cruise have found most successful in the stage of choleraic diarrhœa is sulphuric acid and opium, with sinapisms, external heat, and creosote water.

4. In collapse Drs. Hayden and Cruise have had more success with calomel given in large doses than any other medicinal agent. In several cases, besides those in which recovery took place, reaction set in under the calomel treatment, but death occurred in the consecutive fever.

5. Drs. Hayden and Cruise believe cholera to be contagious, but in a much less degree than the principal endemic contagious diseases of this country, viz., typhus, scarlatina, measles, and small-pox.

6. As regards individuals exposed to the contagion of cholera, a state of good health, with sanitary and dietetic precautions, afford a strong assurance of immunity from attack.

7. *Immediate* attention should be given to derangement of stomach or laxity of bowels during cholera epidemic; and to insure this among the poor, house to house visitation seems indispensable.

Art. 15.—*Papers on Cholera.*

By Dr. Mapother and Dr. P. C. Little.*

(*Medical Times and Gazette*, August 17, 1867.)

Dr. Mapother read a paper entitled "The Topography of Cholera." One object of it was to show the dependence of that disease upon the dampness produced by old streams and pools in Dublin, London, Liverpool, and other cities. He showed several ancient maps of 1610, 1712, 1756, and other dates, to illustrate the condition of the cities referred to. He also adduced evidence to show that the poison of cholera was of cryptogamic origin.

Dr. P. C. Little read a paper entitled "Experience of Cholera during the late Epidemic, with Cases." It detailed the treatment which he had pursued with success. His views were in substance the following:—That the disease is a contagion, probably communicated through the medium of water, air, or food; that its development and diffusion depend upon certain atmospheric, hygrometric, and hygienic conditions; that the chief effects of these conditions are produced upon the sympathetic system, especially those presiding over the gastro-intestinal tract; that these nerves seem powerless to discharge their functions while in contact with the morbid products of the diseased; and that the proper treatment was, therefore, to remove those products and give tone to those nerves. A most useful means for this end he had found to be

* Abstract of papers read at the Thirty-fifth Annual Meeting of the British Medical Association, held in Dublin, August, 1867.

mustard, which acts as an emetic, a mechanical aperient, and a neuro-tonic. He recommended alcoholic drink very sparingly, and of a large number of cases he had only one death in his practice.

Art. 16.—*Cholera.*

By Henry Hartshorne, M.D., Professor of Hygiene in the University of Pennsylvania, etc.

(*Essentials of Practical Medicine.*)

Dr. Hartshorne, in his valuable "handy-book" on the *Principles and Practice of Medicine*, after giving the symptoms, course, appearances after death, the diagnosis, history, and nature of cholera, proceeds to speak of the cause, which he thinks is a protozoon, or primal organism, of extreme individual minuteness, which, on entering the human body, affects it as an organic poison. He agrees with Dr. G. B. Wood, Dr. Austin Flint, Dr. Snow of Providence and some foreign authorities, in believing that cholera is *not personally contagious*. He believes that *animal matter in a state of rapid and foul decomposition*, putrefaction, along with moderately high temperature and ordinary moisture, favour and maintain in life, multiplication, and migration, this *ens primalis :* and that *nothing else* is required to explain the whole history of the propagation and extension of cholera.

Art. 17.—*Observations on Gangrenous Affections in Choleraic Patients.*

By A. Mouchet, Paris.

(*Archives Générales de Médecine*, April, 1867.)

M. Mouchet was, in the year, 1866, attached for nearly three months as *interne* to the cholera wards of the Hôtel Dieu; and had opportunities of observing, under the direction of M. Horteloup, several cases of gangrene following cholera. In an interesting article in the *Archives Générales* he gives a clinical history of the cases of choleraic gangrene which came under his own notice, and adds also a short summary of what had been previously written by authors concerning this very rare morbid phenomenon :—

Gangrene manifesting itself in a cholera patient may attack the alimentary canal, the respiratory apparatus, or the skin and extremities. The gangrene may present itself either during the algide period, or, as it generally does, during the period of reaction.

1. *Gangrene of the Alimentary Canal.*—Cases of gangrene attacking a more or less extensive portion of the mucous membrane of the intestines are not very rare. Out of 120 autopsies at the Hôtel Dieu, it was noticed in one instance only; in this the small intestine was affected at three points, where there existed gangrenous patches each of the extent of between two and three centimètres; they were situated at the central part of the intestine, and involved the muscular coat. The mucous membrane was of a dark grey colour, very friable, very fetid, and

detached by the least scraping. There was no vascular congestion around these patches. The patient was a man about thirty years of age, who died in about a quarter of an hour after admission, at the commencement of imperfect reaction. M. Bouilland states in his work on cholera, published 1832, that he had observed gangrene of the intestines in seven cases, once in the small and six times in the large intestines. M. Mouchet refers to two reported cases of sphacelus of the mucous membrane of the tongue, and relates the following case observed by himself of gangrene of the lower lip :—

The subject of this case was a young woman aged twenty-two years, by occupation a cook. This female, of a good constitution, was admitted into the Hôtel Dieu, in order to be treated for acute bronchitis, but on October 21st was attacked with all the symptoms of algide cholera : rice-water stools, very copious vomiting, cramps, general coldness, cyanosis, sunken eyes, insensible pulse, with slow respiration. She was at once treated by laudanum injections, ice, and seltzer water.

October 22nd.—Stools and vomiting less frequent after the administration of laudanum; the cold not so intense. The patient complained of great heat in her inside. The pulse was sensible, and even strong.

October 23rd—The state of the patient was the same. No diarrhœa, frequent vomiting, less heat and pulse not so strong, marked oppression, respiration frequent, mucous râles audible over both sides of chest. A mixture of antimony, digitalis, and acetate of ammonia was prescribed. In the evening the oppression had increased, and the body was still cold. A cold affusion was ordered, which relieved the patient.

October 24th—Was more quiet during the night, but vomiting persisted and the diarrhœa had returned. On the internal surface of the lower lip, at the left side, there was noticed a blackish patch of the size of a franc piece; it was quite insensible, and had all the character of an eschar. During the day the eschar increased in size, and at two o'clock in the afternoon the patient died. The symptoms proper to cholera were not aggravated, but the girl seemed to succumb to a kind of poisoning. A post-mortem examination was not made, but the buccal cavity, carefully examined during life, presented no sign of stomatitis, nor any other gangrenous patch.

Observations.—In this case it is impossible not to attribute the gangrene of the lower lip to the cholera. In addition, the case includes a very important fact, and that is, the grave nature of the general symptoms, which were not, so to speak, those of cholera, and the rapidity of death.

2. *Gangrenous Affections of the Respiratory Track.*—M. Mouchet has observed but one instance of these, out of 540 cases of cholera; but it may not be discovered during life; and the patient may succumb before the appearance of the characteristic symptoms of the affection.

The case observed at the Hôtel Dieu was that of a young man, aged twenty-two years. He had been attacked on the evening before admission by diarrhœa, which was soon after accompanied by sickness. When first visited in the wards there was very marked cyanosis, coldness of the skin and tongue; pulse sensible, but small and frequent; very weak voice; suppression of urine, and cramp. He was treated by sulphate of copper given by the mouth and the rectum. On the following day,

August 8th, the pulse was high and the body was warm; the patient complained of a heavy, burning pain in the head; suppression of urine still continued. Fearing a too violent reaction on the part of the brain, M. Horteloup ordered the man to be bled to the extent of 150 grammes.

At five o'clock in the evening the patient was much relieved; pulse 80; no vomiting nor diarrhœa; urine passed.

August 10th.—Patient was delirious during the night, but at the time of the visit was calm, and answered distinctly the questions that were put to him.

August 12th.—Had been delirious and very much agitated several times since the 10th; when seen at noon he was quiet, but complained of pain in one part of the right side; the face was pale, anxious, expressive of suffering; pulse 110, small and frequent; the extremities were commencing to grow cold; the tongue was dry; no vomiting, no diarrhœa; respiration short and much accelerated.

On the right side of the chest, and at the summit of the lung, were found mucous râles and slight bronchotomy; towards the base and middle part of the lung of this side there was manifest dulness and loud respiratory sounds, together with mucous râles. The patient was not troubled with cough or expectoration, and the breath was not fetid. The other lung presented nothing abnormal; no appreciable change in the heart. *Diagnosis.*—Probably pneumonia of the summit of the lung, complicated with cerebral disturbance.

A few hours afterwards the patient died, having presented no other symptoms than those just described.

Autopsy twenty-four hours after death.—Whole of right lung much congested, the superior part of a deep colour and hard consistence; there was, in fact, manifest red hepatization. This part of the lung presented on section, here and there dotting the indurated tissue many small grey and soft points, some of them collected together and forming a cavity as large as a nut, and filled with purulent matter, and with its walls rough and made up of pulmonary tissue indurated and infiltrated with pus. On the outer surface of the middle lobe of the right lung there were livid patches, irregular in form, and extending over several pulmonary lobules; the pulmonary tissue involved in these dark patches was soft, and could be broken down much more easily than the surrounding indurated tissue. This greenish-black colouration extended into the lung, and had a thickness of two centimètres. No sanguinolent nor purulent fluid could be pressed out of this altered tissue, which by squeezing was converted into a dark fetid pulp. The bronchial and arterial divisions corresponding to these gangrenous patches were dissected as far as possible, but nothing special was discovered.

The cerebral pia-mater was slightly congested, and the brain, which was firmer than usual, presented a well-marked punctuation.

M. Mouchet thinks, as the livid patches in this case existed in that part of the affected lung where the tissue was only congested, and not hepatised, and as the pneumonia was limited strictly to the right superior lobes, that the gangrene was quite independent of the inflammation of the lung, and that the cause of its situation and its manner of production is to be sought for elsewhere.

A case communicated by M. Penières to the author is also related, in

which a young woman, aged twenty-two, was, in the reaction period of cholera, attacked with double pneumonia, accompanied by a sensation of scalding along the trachea and behind the sternum, and a copious expectoration of a thick, fetid fluid of a dirty grey colour, in which were suspended greyish shreds of pulmonary tissue and mucous membrane; the breath was very fetid, there was much fever, and the constitutional symptoms were very severe. The patient succumbed, but no autopsy was made.

3. *Gangrene of the Skin and Extremities.*—This variety of gangrene is very rare, and seems not to have been observed until recently. No mention is made of such an affection in the complete work of MM. Briquet and Mignot. M. Gendrin mentions a case where a blistered surface became gangrenous in the reaction stage of cholera, and instances have been recorded by MM. Laugier, Lamare, Joffray, and Bourdon of gangrene in the feet consequent upon arteritis attacking patients who had had cholera. M. Mouchet observed three cases of gangrene at the Hôtel Dieu in the year 1866, but in these instances it was not in the lower extremities that the mortification presented itself, but in other parts of the body. The first case was that of a lad aged sixteen years, who had had a severe attack of algide cholera, but at the time of his admission was in the stage of reaction. A large blister had been applied to the epigastrium, but the epidermis was only partially detached, and when first seen by the *interne* of the Hôtel Dieu the vesicated surface presented no unusual appearance. He went on well until the seventh day, when he complained of general uneasiness, and the pulse rose from 70 to 90. The blistered part was soon after covered by a greyish false membrane, and the skin around was red and inflamed. The patient seemed to suffer much constitutionally, and there was retention of urine. The thick false membrane was removed, but the place in a few hours was covered on its surface by a sanious detritus, and was of a fetid odour. Large blebs subsequently formed around the gangrenous surface, which were filled with a reddish serosity, and each rested upon a hard basis, which was already partly gangrenous. On the evening of the ninth day the patient had epistaxis, which necessitated plugging of the nares. On the tenth day he was in a state of profound adynamia. The patches had increased very much in extent, and some were as large as half the hand. On the eleventh day bleeding from the nose again occurred, and the patient died at four o'clock in the morning. No post-mortem examination.

The second case was that of a young man, aged twenty-two years, who was admitted with all the symptoms of very severe algide cholera. On the second day after his admission he was bled from the right arm, as the pulse was as high as 110, and reaction was imperfect. On the third day there was great prostration; the patient was unable to speak; the pulse was 130. The right arm was very much swollen, and there were two violet-coloured patches, one at the centre of the inner border of the arm, the other on its anterior surface. The swelling increased, and the gangrene extended rapidly. The patient rapidly sank, and expired on the fourth day. A gangrenous patch also presented itself behind the left ear at a spot where three leeches had been applied some three days before. At the post-mortem examination the brachial

artery and its branches were dissected very carefully, but no appreciable lesion was discovered.

In the third case, that of a young man aged twenty-one years, who was admitted in the algide stage of cholera, and with whom reaction was complete on the third day, phlegmonous inflammation and gangrene of the integument of the right scapular region were discovered five days after admission. The constitutional symptoms were very severe, and the inflammation and sphacelus spread rapidly, and soon carried off the patient. In this case a careful post-mortem examination was made of the arteries supplying the affected parts, but they were found to be permeable as far as the borders of the mortified tissues. An interesting point in the last case is that sugar was discovered in the urine two days before death.

M. Mouchet, in some remarks upon gangrene after cholera, asks whether the cause of these affections may not be "a form of paralysis of the vaso-motor nerves occurring during the period of reaction, arrest of the circulation in a certain region, stasis of the blood in the capillaries, and consequent coagulation of its fibrine, which blocks up the vessels and produces the gangrene?" This muscular paralysis, producing, by the coagulation of fibrine and obliteration of the capillaries, will also account for the inflammation which frequently precedes and accompanies the gangrene, wherever it may have its seat. M. Mouchet thinks, too, that there is probably a certain relation between these gangrenous affections and the diabetic glycosuria, which, according to the researches of M. Gubler, occurs temporarily in the period of reaction of cholera. Considering the analogy that exists between the diabetic and the choleraic gangrene, it seems possible to arrive at the conclusion that both spring from the same cause; but the facts are not yet sufficiently numerous to justify one in making positive statements on this point.

Art. 18.—*Heartburn (Cardialgia).*

By F. W. Pavy, M.D., F.R.S.

(*Digestion and its Disorders.*)

In speaking of this very common complaint, Dr. Pavy says, in his interesting and instructive treatise "On the function of Digestion; its Disorders and their Treatment," that rich living is a frequent source of its production. Dr. Leared is of opinion that butyric acid, either ingested ready formed, as in pastry, &c., or formed, as the result of defective digestion, in the stomach, is the agent which gives rise to the sensation; and in support of his view he says that pure butyric acid, brought in contact from above with the fauces and œsophagus, produces a sensation pronounced by competent judges to be identical with that of heartburn. Dr. Pavy is inclined to think, from personal experience, that certainly the burning sensation at the pit of the stomach is sometimes due to a retrograde flow of bile into the cavity of the viscus. After having been subject for some time to a frequent recurrence of the sensation of heartburn, and with it thus fresh before him, he was struck at perceiving the same burning sensation at

the pit of the stomach that belongs to it come on during the occurrence of vomiting efforts, the result of sea-sickness, after all the food had been some time previously discharged from the stomach. The rejection following the arrival of this burning sensation was strongly tinged with bile, whilst no appearance of bile had been noticed before.

The treatment that is usually sucessful for heartburn consists of the administration of alkaline agents, conjoined with a proper regulation of the quantity and quality of the food. A combination of the carbonate of soda or ammonia with rhubarb and magnesia, or with rhubarb and a mild bitter, as the calumba, may be advantageously given; or sometimes the liquor potassæ in a bitter infusion. As alkaline agents, the Seltzer, Vichy, and Vals waters form agreeable and useful remedies. Heartburn which is habitual or of long standing is often more effectually relieved by acids than alkalies, and the nitric acid is the best for the purpose.

Art. 19.—*Report of a Case of Acute Dropsy without Albuminuria.*

By W. R. Basham, M.D., Senior Physician to the Westminster Hospital.

(*The Lancet*, August 24, 1867.)

The occurrence of a case of this familiar form of dropsy, usually recognised as Dr. Bright's first variety, in which not a trace of albumen could be detected in the urine throughout the entire course of the illness, possesses much interest, as well to the practitioner as to the renal pathologist.

"Richard H——, aged twenty six, employed in the gas-works, was admitted into King William Ward on January 22nd. He stated that about a fortnight previously, having been exposed to cold and wet, he suffered from cold chills and pains in his limbs, followed by considerable febrile disturbance; and that a morning or two afterwards he suffered much distress in his breathing, and there was a swollen and puffy state of the face, eyelids, and cheeks, as well as the surface of the body generally.

"On admission the aspect of the patient was strictly characteristic of acute albuminuria. The face was puffy; the eyelids were œdematous, as well as the backs of the hands and the arms as far as the elbows; the surface of the chest was slightly anasarcous, which was more pronounced from the thighs downwards. The respirations were hurried, and the breathing movement short; a deep inspiration could not be taken. The breath-sounds throughout the chest were indistinct, and everywhere obscured by moist, wheezy murmurs. The resonance was equal in the corresponding regions of the two sides. The sounds of the heart were indistinct, from the moist sounds in the chest. Pulse 90. He complained of a teazing cough, worse at night, and dyspnœa, coming on in paroxysms. The expectoration was bronchial mucus. There was frequent micturition, but the urine was scanty in quantity, very

high-coloured, of a bright sherry colour, and of sp. gr. 1022. Not a trace of albumen could be detected in it. Neither heat and nitric acid, nor nitric acid alone (Harley's process) poured gently down the side of the tube so as to form a layer at the bottom, indicated the faintest trace; nor was any cloud produced by nearly pure alcohol. He was ordered the compound jalap powder, and an effervescing saline with chloric ether; to relieve the cough, the sweet spirits of nitre and compound tincture of camphor proved of service.

"The cough continued troublesome for the next few days, but the breathing improved, and the paroxysms of dyspnœa subsided. The bowels acted freely with the powder, and by the fourth day there was a sensible reduction of the dropsy. Each day the urine was carefully examined by the several processes named, and no trace of albumen was discovered.

"On the 31st, nine days after admission, the dropsy of the surface had disappeared. There was no œdema of the face, hands, trunk, or lower extremities. The cough had abated, and the chest-sounds were natural, save a slight bronchial murmur in the large tubes. An examination of the precordial region led to the detection of what at first was thought to be a slight systolic murmur, heard chiefly at the apex of the heart. It is due to the intelligence of Mr. Winckworth, one of our most diligent students, to say that he first detected the murmur, and drew attention to the fact that it was less systolic than was at first supposed, for that a distinct to-and-fro murmur was heard if the ear was brought directly to the chest. There was no increased or irregular impulse—no tumultuous action; the pulse was from 78 to 80, perfectly quiet and natural; and the breathing unembarrassed. As the man had been under the care of Dr. Radcliffe for rheumatism some eight months previously, in all probability some pericardial mischief was then established. It was evident, from the state of respiration, pulse, and heart-impulse, that no recent disorder of this organ could have occurred. The man left the hospital of his own accord, perfectly convalescent, on Feb. 9th, just eighteen days after admission."

Art. 20.—*How to prevent Pitting of the Face by Small-pox in Persons unprotected by Vaccination.*

By C. Black, M.D., M.R.C.P.

(*The Lancet*, June 29, 1867.)

After earnest consideration of the question as to the best means to be adopted to prevent pitting, after reviewing the different applications which have been recommended for this purpose, Dr. Black determined, from his knowledge of the influence of light on the growth and development of both plants and animals, and of the destructive action of oxygen on diseased tissues, to exclude both these agents from the face of a patient that came under his care a short time since. He, therefore, shut out the light from her apartment by additional blinds of a dark colour to the windows, and he guarded the face from the action of

oxygen by keeping it constantly covered with fresh hog's lard. So effectually was the daylight excluded that the light of a candle had to be employed when anything important required to be done in the room. During this time ventilation was strictly attended to. The disease ran the ordinary course, and when desiccation, which was rapid, had been completed, he had the satisfaction of seeing that no pitting of the face had occurred.

In Dr. Black's second case, the eruption was confluent on the face, and semi-confluent on the body. The mucous membrane of the mouth and nostrils was similarly affected. From the first moment of the appearance of the eruption until desiccation was partly completed, the patient was kept in *perfect darkness* with the face constantly besmeared with lard. As soon as the pustules had acuminated, they did not, as is usual, burst; but they shrivelled, as it were, at once into yellowish-brown scabs, which fell off in two or three days, leaving the face *without a single pit*. No secondary fever occurred.

Dr. Black's third case of unprotected small-pox occurred in a female child of one of the families above named. She was six years old, of delicate constitution, weak and puny in development, and, on her mother's side, hereditarily predisposed to pulmonary consumption. The attack was severe from the outset; the eruption confluent on the face and mucous surface of the mouth, and confluent to a great extent over the body. Dr. Black endeavoured to impress on the minds of the parents the absolute necessity of keeping the patient in *perfect darkness*, and the face well besmeared with lard. To these particulars they themselves attended; but not unfrequently a servant was placed for a time in charge of the sick-room, and whenever such was the case the blind of one of the windows, which was close to the bed of the patient, was invariably half drawn up, so that a certain quantity of light fell directly upon the patient. In vain did Dr. Black forbid this, for so surely as the maid took charge of the patient as certainly did she pull up the window-blind, probably more for her own convenience than the gratification of the child. The case progressed favourably; no secondary fever followed; convalescence was soon established; and after desiccation had been completed, there were left on the face a *few shallow pits*, which could be seen only on close inspection.

Very shortly after the recovery of this case, a little brother, seven years old, sickened, passed through a severe initiatory stage, and had a confluent eruption. He, too, had not been vaccinated. Warned by the previous case, the room was in this instance kept perfectly dark, from the appearance of the eruption until desiccation had in a great measure been completed. Although the face was so covered by the eruption that a free space, however small, could not be found; although the head and face were greatly swollen and the eyes closed for several days; and notwithstanding that the mucous surface of the mouth, throat, and nostrils suffered in like manner, yet in this, as in the second case, as soon as the pustules had acuminated, they shrivelled at once into scabs, which quickly fell off, and left the face *without a single pit*. In this case, too, no secondary fever occurred.

Before this boy had well left his bed, a sister, four years old, and a brother, three years old, were attacked. They also were unprotected by vaccination. The symptoms in both were severe; but especially so in the boy, in whom the eruption was more generally confluent than in any case which Dr. Black has yet seen during the present epidemic. The face was one mass of eruption, and, in the vesicular stage, so coherent were the vesicles on the sides of the nose, that they formed large blisters. Such, too, was the condition of the soles of the feet, whilst the surface of the rest of the body was so occupied by the eruption that a free space could scarcely be found. The eruption on the face of the girl was semi-confluent, but distinct on the remainder of the body. Both patients occupied separate beds in the same room, which was kept perfectly dark during the necessary period. Lard was freely applied to the faces of both, but especially to that of the boy, who, during the rising of the pock, frequently rubbed his face with his hands. Dr. Black was afraid that this interference would produce pitting; but such was not the case. Both patients made an uninterrupted recovery; there was no secondary fever, and not the slightest pitting of either countenance occurred.

The medical treatment pursued in each of the above cases consisted in administering from one to two drachms of the solution of acetate of ammonia, with two or three drops of the solution of arsenite of potash, every second or third hour, from the commencement of the initiatory stage to the acumination of the pustules, from which period to the completion of the stage of desiccation the dilute nitric acid, in doses of three or five drops, was substituted for the acetate of ammonia only. The diet consisted chiefly of milk and light farinaceous food, with cooling drinks, during the earlier stage of the disease; and of these, with the addition of beef-tea, chicken-broth, and similar food as the maturation of the pustules progressed. In but one instance was recourse had to any alchoholic stimulant, and that was in the case of the first patient, who was allowed a small quantity of wine during convalescence.

Art. 21.—*On some Fatal Cases of Rheumatic Fever, accompanied by a very high Temperature of the Body—namely,* 110° *and* 111° *Fahr.*

By Sydney Ringer, M.D., Physician to University College Hospital; Professor of Materia Medica and Therapeutics at University College.

(*Medical Times and Gazette,* Oct. 5, 1867.)

These cases are of interest and importance, from the sudden occurrence in the body of the very unusual temperature of 110° and 111° Fahr., while the symptoms, at the time the temperature was thus preternaturally high, were peculiar, and, as far as Dr. Ringer knows, have not been noticed in the disease.

It is apparent from these cases that we cannot foretell from the course the disease runs that such a termination as is here described may be expected, for in one case the patient was quite convalescent, while in two other cases the disease was not of unusual severity, and in the remaining case, although the attack was a severe one, it was not of such gravity as to excite our fears. Can the temperature of the body help us in such cases, and enable us to foresee their ending? Apparently not, as in the patient who was convalescent it may be presumed the temperature was normal till the occurrence of these serious symptoms, while in the remaining cases the temperature continued at about the same height during the days they were under observation, and was not unusually high. Thus in two cases the thermometer marked daily a temperature of 102° or 103° Fahr., and in one of 105° Fahr. With two of the patients, however, on the evening preceding their decease, the temperature rose rather considerably—that is, about 2° Fahr. above that recorded on previous evenings; but even with this increase of heat of the body the temperature was not unusually high, marking only 105° Fahr. on the thermometer, a temperature often met with in cases of rheumatism which proceed to a favourable ending; and as in other diseases so in rheumatism, a sudden accession of 2° to the heat of the body by no means necessarily indicates the approach of serious symptoms and of death.

It has been held by some that in rheumatism there may occur a metastasis of the inflammation from the joints to the membranes of the brain, that the joint affection may suddenly disappear, and symptoms not unlike those described may occur from the membranes of the brain being attacked. The symptoms in these cases cannot be thus explained, for there occurred no such recession of inflammation from the joints; but the improvements in these parts took place gradually, and not more rapidly than is witnessed in other cases which proceed to a favourable issue. Neither did these symptoms occur simultaneously with the lessening of the inflammation in the joints; and further, at the examination of the body after death the brain and its membranes were found to be healthy. In one case, indeed, the joint affection had completely disappeared for some time, and the patient was considered well. In this case no such recession could have occurred, although it is possible that here a relapse occurred, but the membranes of the brain, and not the joints, were affected. Yet in this case the brain with its membranes was found at the post-mortem examination to be healthy. It is obvious, from what has just been stated concerning the appearances of the brain and its membranes, that these symptoms were not due to meningitis.

Were these symptoms, with the extraordinary elevation of the temperature, due to the sudden supervention of inflammation of some of the organs of the body other than the brain? This explanation fails us; for, although in three cases inflammation of the heart or its membranes was found at the examination after death, this was not sufficient to account for the unusual symptoms which occurred, as in two cases the inflammation was very slight, and in all it commenced, as was proved by physical examination, many days before the new phase in the disease began; and it may be stated that the amount of inflammation which was shown by the post-mortem examination is often met with in other

cases in which the symptoms above described are entirely absent ; and, lastly, in one case no inflammation of any of the organs of the body could be found. As the symptoms present at the close of the life of these persons were very similar to those seen in patients suffering from blood poisoning, as occurs sometimes in jaundice, lead-poisoning, &c., it may be thought that the death was due in these cases to a sudden suppression of urine, but no such suppressions occurred in two cases in which the urine was collected. In both of these the urine was passed in abundance, and in one was very greatly in excess of the quantity usually voided in health, while the quantity of urea excreted the few hours before death was also in excess of the quantity excreted in the same time in health. Neither can the occurrence of these symptoms be ascribed to the influence of the medicines taken by these patients, as they were such as are generally given to people who suffer with rheumatism, and are often given to persons with other diseases where no such symptoms as those described follow their use. Boxall, indeed, took only camphor water, with, on the first few nights of her stay in Hospital, a few small doses of morphia.

It is well known that bleeding has the effect of considerably reducing the temperature of the body. Hence it was thought possible that some good effects might follow on general bleeding. With this view, in Wakefield, 12 oz. of blood were withdrawn from the arm. Yet during the time the blood flowed freely, and after the bleeding had been discontinued, the temperature of the body continued to rise, while the symptoms were in no way altered. It is necessary to observe that this patient was very stout and very plethoric, and it may be that the quantity of blood withdrawn was too small to exert any effect on the temperature.

Ellen Boxall, aged twenty, was admitted into University College Hospital on May 29, 1862, under the care of Dr. Reynolds. For three weeks before her admission she had suffered from slight pain in various parts of the body. From the account she gave these pains appear to have been seated in the muscles rather than in the joints. She continued at her work till the evening before her admission into hospital, when she was seized with severe pain in several of the joints of her body. The attack of rheumatism was a severe one, whether we measure its severity by the general symptoms, by the pain, or by the temperature of the body. She was under treatment before she died eight days, and was severely ill in all nine days. While in hospital, in many respects she improved, as the following account will show :—

During the first few days she suffered most severely from pain in most of the joints of her body ; but not only were those joints usually attacked by rheumatism painful, but she also complained greatly of a pain along the collar bone, most marked at the sterno-clavicular articulation, which was made worse by speaking, swallowing, and breathing. There were also much pain and tenderness along the lower part of the spine and in both heels. The joints were but little swollen and but little reddened. The pains in these parts continued to be severe for a few days, but then grew less, and on the last two days of her life she complained but little, even when her limbs were moved or the joints handled.

Throughout the attack she looked very ill, and her expression was anxious and imploring. As the pain declined in severity, her expression

improved, and became more natural. Her manner was on some occasions so peculiar as to lead us to think she was hysterical. At these times she called out loudly without any apparent cause, and then apologized for the disturbance she had made. On one day she said she was unable to raise her arms or to move them at all. This, we thought, was due to hysteria, as it was owing to pain which any movement caused in her joints. She was always free from pain of the head.

At first her tongue was dry and red, her appetite bad, and her thirst great. In all these respects, however, she soon improved The sweating, which was very profuse during the first days of her residence in hospital, soon lessened, and on the last day of her life had nearly ceased. By physical examination, her lungs were proved to be natural.

Percussion of the præcordial region led us to think there was pericardial effusion; but the post-mortem proved to us that on this point we were wrong. No endocardial murmur was heard at any time; but on the first day of her admission, friction sound was heard over the lower part of the sternum, and this continued to be present at different parts of the præcordial region to the time of her death.

She was very delirious during the whole of her illness, and was especially so on the night preceding her death. With the exception of the delirium, all her symptoms grew less severe; but she was always very ill. On the morning of the day of her death, she was much worse. She was very restless, and constantly muttered. If her statement could be relied on, she was free from pain. The eyes were bright, and her faced flushed, and her breathing was much hurried. She continued thus during the day, and at five p.m. she was discovered by the nurse to be unconscious. I was sent for at 6.30 p.m., when her breathing was stertorous, and she was profoundly insensible. She died about half-an-hour after this time. Her temperature was always high. Thus on the first five days of her stay in hospital it rose to 105° Fahr. On the next two days, those immediately preceding her death, it marked only 104° Fahr. On the morning of her death, at 9 a.m., it was 105°; at 12, 106°·2; at 3 p.m. 105°; and at 6 p.m., half-an-hour before her death, 100°·2.

Post-mortem.—Brain, medulla oblongata, and their membranes quite healthy. The lungs were congested posteriorly, but were otherwise natural. Pericardium contained about three quarters of an ounce of opalescent serosity. The membrane covering the heart was finely injected in many places, and on the base of the great vessels there were a few flakes of lymph. The valves of the right side were healthy, but a few vegetations were seen on the mitral valve at the part where they are usually met with. Aortic valves are healthy. Kidneys were rather congested. Several of the joints were opened; the synovial fringes were slightly injected; there was no excess of fluid, neither was this altered in character. The cartilages were rather opaque and yellow. Spleen was large and firm. By microscope the liver and kidneys were proved to be healthy, but the cartilage from the joint was decidedly too granular.

Medicine.—May 29: Mist. camph. t. d. s.; morph. hydroch. gr. $\frac{1}{4}$ n. s. May. 30: Tinct. opii ♏ xxx. n. s. May 31: Morph. hydroch. gr. $\frac{1}{4}$ n. s. June 1: Morph. hydroch. gr. $\frac{1}{4}$ n. s. June 2: Pil. ij. n. s.; haust. domest. vesp.; tinct. opii ♏ xl. n. s.

M. Blake, 23 years of age. This was his first attack of rheumatism. Until the night before he died, he appeared to progress most favourably, and there was nothing in his appearance or his symptoms to excite apprehension. Most of the joints of his body were attacked; the pain and tenderness, however, were by no means great. He looked a little anxious,

and his lips were a little dry, and his tongue was thickly coated with fur. He had no pain in his head or chest. He sweated most profusely, so much so that the perspiration ran down his body in big drops. The heart's dulness by percussion was natural in its bruit, and the apex beat in the fifth interspace. There was heard double friction sound over the whole heart region. This was loudest at the base. During his stay in hospital the pain in his joints grew less, and was only noticed on the movement of his limbs. His rather anxious look left him, and the intense thirst ceased, while the sweating, though always considerable, much diminished. After a few days' stay in hospital, a soft systolic murmur was heard at the apex, but nowhere else. During the night before his death he complained of feeling heavy, but he was not delirious. He drank very largely of water—indeed, he emptied three large jugs. At 7 a.m. of the morning of his death he ate a fair breakfast.

The temperature of his body daily rose to 103°·4, until two days before his death. On the evening before he died, it was 105°·4. At 8 a.m. of the day on which he died it was noticed that he wandered, but this was thought by the nurse to be "temper." At 8.30 I was sent for; he was then very delirious; he rolled violently about the bed, and required to be held down. This violence quickly passed away, and he then lay in a half-unconscious state, and moaned loudly. His breathing was irregular and jerking. His eyes were wide open; the pupils were equal and of medium size. The unconsciousness soon deepened, and he could not be roused. He became very pale and rather livid. The soft parts of the chest fell in with inspiration. The lividity soon greatly increased; this was especially noticed in the skin of his chest and around the miliary vesicles, with which the surface of the body was largely covered. His heart while in this state beat most violently. His pulse was regular in rhythm and force, and beat 186 in the minute. At 8.40 the temperature of his body was found to be 109°·4; it gradually rose, and at 9.15, the time of his death, it was 110°·8.

His urine was always free of albumen. The quantity of urine that he passed just before his death was enormous. Thus, from January 1, 9 a.m., to January 2, 6 a.m., it amounted to 4800 c. c. This contained 45·600 grammes of urea.

Post-mortem.—Brain and its membranes healthy, not even congested; lungs congested at posterior part, otherwise they were natural; the pericardium contained rather less than three ounces of deep red serosity, which contained no lymph. On the pericardium over the base of the heart, where it joined the aorta, there was seen a slight roughness from lymph. This was small in quantity, and there was none on any other part of the heart. Mitral valves were slightly incompetent; blood in heart very fluid; valves of right side were natural; some small vegetations were found on the mitral valve; aortic valves were healthy; the liver and kidneys and other organs were healthy.

Treatment.—Dec. 24 (day of admission): Calomel. gr. ij.; ext. coloc. gr. v. st. 25th: Pot. bicarb. gr. xxx.; aquæ ℥jss., every three hours. Liq. opii ♏xxx., to be taken at night. 27th: Eight leeches were applied over heart. Pot. nit. gr. x.; morph. hydroch. gr. ¼, to be taken every sixth hour. Haust. sennæ ℥jss., to be taken in the morning.

Diet.—Dec. 24: Beef-tea and milk. 31st: Rice pudding.

E. Wakefield, twenty-nine years of age, was admitted into University College Hospital, April 9, under the care of Dr. Fox. She was a stout full-blooded woman. This, her first attack of rheumatism, began a few months before admission, and was marked by slight flying pains in her

joints. She was able to continue at her work until April 5, when she was compelled to take to her bed. At the time of her admission she suffered from pain in most of her joints; she was always free from pain in the head, and was not delirious till the night before her death. The temperature of her body rose daily to 101° and 102°, but on the evening preceding her decease it reached 104°·2. With the exception of this rise of 2° Fahr., up to this time she appeared to be in the same state she had been on previous days. At about 9 p.m. of this evening she was delirious, and talked much during the night. She got out of bed several times. At 5 a.m. of the following morning she was much quieter. On entering the ward at 9 a.m. I noticed she was very ill; she appeared to be very restless, and rolled her head from side to side; she took no notice of circumstances around; she appeared to be rather delirious, and muttered much; she often contracted her brows and distorted her face into various grimaces; any request that was made of her was instantly obeyed; thus she protruded her tongue when told, &c. Her temperature at this time was 107°·8. At 9.55 it had risen to 108°, and her pulse beat 144 in the minute. Her heart throbbed strongly. At this time (9.55) her face was flushed, and slightly moistened with perspiration. Her lips, which were dry, had on them some sordes. The pupils were equal and of medium size. Her breathing was irregular; now quick, now slow, always superficial. There was no paralysis of any of her limbs. At 11.20 she was much worse; the insensibility deepened until she became quite unconscious of pain. Her arms then fell heavily; they occasionally twitched; now it was observed her breathing was stertorous, that her face had become pale and rather livid. Mucus dried on her eyes; her pulse beat 152 in the minute. 11.38: Temperature was 109°·4; at this time blood was taken from her arm. 11.55: Bleeding discontinued; 12 oz. of blood were withdrawn. She was not in any way benefited by the bleeding; her symptoms and temperature continued the same; and 12.10 the temperature was 110° Fahr. At 1.15 her temperature was 110°·8. At this time she died.

Post-mortem Twenty-three Hours after Death.—Rigor mortis well marked; pericardium everywhere adherent to heart; the adhesions were easily broken down; the visceral pericardium was finely injected, and in front roughened with lymph; the lymph was much more abundant at the back of the heart; a few ecchymoses were seen under the pericardium. Heart's substance softened, pale and cloudy; valves of both sides healthy; those of left side deeply stained with blood. On the left side there were, under the lining membrane, several ecchymoses; blood in heart was very little coagulated, very dark coloured, almost black. Right side of heart contained a very large quantity of blood. Heart's substance was seen by microscope to be too granular. Lungs, with exception of some congestion at the back part, were natural. Liver congested, very soft, too opaque; kidneys congested; other organs healthy. Several of the joints were opened; the fringes were a little injected; they did not contain any excess of fluid, neither was this altered in appearance. Cartilage looked rather opaque, and that on back of patella softened (query, more than may occur in health?). Brain and its membranes natural appearance.

She took small doses of opium and some bicarbonate of potash with nitrate of potash.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 22.—*The Diagnosis of Acute Mania.*

By HENRY MAUDSLEY, M.D.

(*Physiology and Pathology of the Mind.*)

"Acute mania is not likely to be overlooked, or to be confounded with any other disease. The only doubtful question in regard to it will be in the event of an impostor attempting to simulate it, or of a drunkard actually simulating it. Certainly he must be a clever impostor who can simulate the wild, restless eye, the ceaseless movements, the quick fragmentary association of ideas, and the volubility of utterance of acute mania so as to deceive an experienced observer; nor can he, however skilful an actor, pass days without sleep, and even weeks with only a few hours' sleep, maintaining a continual activity, as the acute maniac does. The skin in acute mania is dry and harsh, or cool and clammy, but the skin of a pretender who tries to keep up a prolonged muscular agitation will hardly fail to be hot and sweating. *Delirium tremens* will be distinguished by its own characteristic symptoms—the muscular tremors, the peculiar fearful illusions and hallucinations, the cold skin, feeble pulse, and the white and tremulous tongue. But there are cases in which positive insanity is produced by drink, and they are sometimes the occasion of great injustice being done by our legal tribunals. Certain persons who have a strong predisposition to insanity, or who have been once insane, or who have had a severe injury of the head at some time, do actually become truly maniacal for a while after an alcoholic debauch, or are rendered temporarily maniacal—being probably thought drunk—by a very little liquor. In this condition vivid hallucinations are apt to arise, and the sufferer may perpetrate crime, not knowing afterwards what he has done, and certainly at the time not knowing the nature of the act. On one occasion, I was asked to see in the gaol a respectable builder, who was undergoing imprisonment for a rape on a servant girl under fourteen years of age, and I was never more convinced of anything in my life than of the truth of the man's assertion that he remembered nothing whatever of the crime which he had committed. He had for some time heard voices speaking to him, which had no existence out of his mind, and he had been continually drinking for some days before the crime. There was no attempt at concealment or deception; he spoke with perfect candour; and he still heard voices speaking to him through the ventilator of his cell. Many such instances have been recorded, and it is high time they were recognised by those who preside over the administration of justice. The common erroneous notion that if a person becomes furious after intemperance he must be either "mad drunk," or at most have *delirium tremens*, has unquestionably worked much mischief. It admits of no doubt that the effect of a debauch may be a genuine acute mania, marked by violent and active delirium."

Art. 23.—*On Wakefulness.*

By William A. Hammond, M.D.

(*British and Foreign Medico-Chirurgical Review*, October, 1867.)

Dr. Hammond's observations and experiments warrant him, we think, in enunciating as a law that whatever is capable of lessening the quantity of blood in the brain is also capable of inducing sleep, and this without exception; and that the use of sleep is the comparative rest of the *sensorium commune*, and the recovery by rest and assimilation of what the organ has lost in the performance of its great and vital function. Amongst the conducing causes he points out the following :—

1. Heat, as determining the blood to the cutaneous surfaces and the extremities, with a dilatation of their vessels.

2. Cold, that moderate degree which on healthy and vigorous persons, he assumes, has a similar effect, as indicated by "the ruddy complexion and warmth of the hands and feet," in contradistinction to intense cold, which, as is well-known, produces stupor, and is fatal to life.

3. Diminution of power of attention—that, too, so well known —however produced.

4. Excessive loss of blood by lessening the quantity of blood in the brain, and enfeebling the propelling force of the heart.

5. Debility, acting in a somewhat similar manner.

We are of opinion that a sixth might be added—viz., gentle carriage exercise. We have commonly found it to have the effect of rendering the pulse slower; and it is known by many to have a soothing influence conducive to sleep.

The second chapter in Dr. Hammond's "little volume," as it is designated by its author, is on the "pathology of wakefulness." It is his main subject.

In every instance of primary insomnia he holds that it depends on an increase of the quantity of blood circulating in the brain, either absolute or relative; the former in cases of vigorous general health, the latter in cases in which the system has been reduced below par, with temporary increase of activity in the cerebral circulation. He describes some striking examples of each kind. Of the first, he gives a case in which sleep was restored by means of a large dose of bromide of potassium (thirty grains); a medicine which Dr. Hammond has found by experiments on dogs and other animals to have a decided effect in diminishing the flow of blood through the brain. The patient was a robust man, a broker, intent on and over-excited by speculation in the money market. Of the second kind, was a lady, reduced to a deplorable state of weakness by loss of blood associated with many mental anxieties. In this instance a stimulating mode of treatment was employed, and with the desired effect, and this speedily, by the use of whisky at bed-time after a warm bath.

In the third chapter "the causes of wakefulness" are discussed. In accordance with the assigned pathology, Dr. Hammond maintains that whatever is capable of increasing the ordinary amount of blood circu-

lating through the brain may occasion wakefulness. The following he points out as most deserving of notice, especially as they are more or less under the control of the individual.

1. Long continued or excessive intellectual action, or any powerful emotion of the mind; the former, besides being productive of insomnia, being often attended with mental hallucinations.

2. Positions of the body, such as tend to impede the flow of blood from the brain, and yet not obstruct its passage through the arteries, productive of hyperæmia, and thereby of a state of erethism and insomnia.

3. An increased flow of blood to the brain from certain articles taken of food or medicine, such as coffee, tea, alcohol, opium, &c.; the latter, if not given in large stupefying doses, and not even then, according to Dr. Hammond, provided the blood circulating through the brain be duly oxygenated by respiration.

4. Functional derangements of certain organs, productive of an increased amount of blood in the brain, such as hyperæsthesia of the skin, or of any other organ of sense, disordered menstruation, irregular or deficient action of the heart, with coldness of the extremities, indigestion, &c.

The fourth chapter is on "the treatment of wakefulness." The therapeutical measures which he proposes are of two kinds; first, those which have a soothing influence on the nervous system, or distract the attention, diminish the action of the heart and blood-vessels, or correct irregularities in their function, lessening thereby the amount of blood in the brain; second, those which produce a similar effect, either directly, mechanically, or specially, upon the circulating organs.

Belonging to the first class he enumerates monotonous sounds, gentle undulating movements, gentle friction of the surface of the body, &c., means which, in slight cases, are often effectual, but in cases of severity are generally nugatory.

Belonging to the second class, he comprises as of most import, hygienic measures tending to improve the general health of the afflicted. Amongst these, he first considers food, his remarks on which are very judicious. He lays it down as a rule that people are underfed, especially women, who use "slops" to the neglect of solid nutritious viands, thereby lowering the tone of the system and promoting local congestions, and if in the brain, a resulting wakefulness. For such cases, *i.e.*, limited to the asthenic form of insomnia, stimulants in moderation are recommended, with nutritious food. He has found in many cases of this kind, coffee, a strong cup, taken three or four nights in succession, beneficial. Regular "physical exercise" he estimates so highly, that he thinks no lasting good can be expected without its aid, and, as a requisite, taken in the open air, to the extent of producing a slight feeling of fatigue. According to our experience, we may add, that walking at a slow measured pace has a lowering effect on the pulse, like that which we have experienced from gentle carriage motion. The warm bath, by determining the blood from the head and calming nervous irritability, he esteems as a valuable means of procuring sleep. The application of cold water to the head he, of course, restricts to sthenic cases of insomnia. He states that he has often used it as cold as ice

could make it. In a tropical climate, we may here incidentally mention, the soothing influence we have experienced from sponging the head at night, or dipping it in water and laying it with the hair wet on the pillow on going to rest: it conduced then to sleep as much, we think, as the prevention of coldness of feet in bed does in a cold or temperate climate. The effects of position in its efficiency in severe cases which have come under his charge, he thinks, afford "additional confirmation of the correctness of the theory that the condition of the brain in such cases is one of hyperæmia."

Of medicinal agents, the one he most confides in is the bromide of potassium, on account of its effects, as already mentioned. Hyoscyamus, as an hypnotic, he prefers to opium. When either is used, he properly insists that care should be taken to give them in sufficiently large but not excessive quantities, for reasons pretty generally understood by medical practitioners. Tonics, he is of opinion, are commonly indicated, especially quinine and iron. Spasmodics, such as valerian, assafœtida, &c., he does not commend.

When insomnia is owing to functional derangement of distant organs, measures of relief, he points out, must be primarily directed to them, to afford lasting relief of the ailment. When long-continued and severe mental exertion has been to blame, it need hardly be remarked that nothing can effectually avail until the individual consents to use his brain in a rational manner. Relaxation at proper intervals is essential, which may be aided much in the restoration of healthy sleep by travel, when practicable, and change of scene.

Art. 24.—*On Melancholia of Early Life.*

By Henry Maudsley, M.D.

(*Physiology and Pathology of the Mind.*)

"This form of depression is met with in children both with and without definite delusion or morbid impulse. Without doubt children differ naturally in liveliness of disposition; but it sometimes happens that depression arrives at such a pass, even in very young children, as to constitute a genuine melancholia. In such case the child whines and wails on all occasions, and whatever impression is made upon it seems to be followed by a painful feeling: the mother brings it for medical advice; for, as she complains, it thrives not, it rests not either by night or day, it is continually crying, and nothing calms it; there is no living with it, and she is almost worn out with anxiety. Such symptoms mark a constitutional defect of nervous element, whereby an emotional or sensational reaction of a painful kind follows all impressions; the nervous or psychical tone is radically infected with some vice of constitution, so that every impression is painful, and, according to my experience, the cause of the defect in a great many instances is hereditary syphilis. At any rate, remarkably beneficial results often in such cases follow the treatment for hereditary syphilis. No doubt other causes besides syphilis may give rise to a like morbid condition of nervous element.

"With the deep melancholic depression there may be associated, in older children, a distinct delusion of some kind. A boy who from his fifth year had been rather peculiar in his behaviour, standing still occasionally, without apparent reason, in the street, and not moving again without considerable pressure, was, when aged twelve, afflicted with positive melancholia and delusions of suspicion. He was extremely depressed, and his manner indicated the greatest fear; he was prone to weep constantly, and was in great dread of his fellow-scholars and of his teacher, all of whom, he thought, suspected him of anything wrong that happened to be done; if a theft were committed, he was sure that he was suspected to be the thief. He was restless at night, and often sighed and uttered unconnected words in his sleep. In five weeks he was said to have recovered, but there still remained eccentricities of conduct. If he kicked a stone, he must return to kick it twice more; if he spat once, he must spit twice more; if he had written a word incorrectly, he must repeat the correction. Of these peculiarities he was quite conscious, and struggled against them, but without avail; after great restlessness and mental disquietude, he was ultimately obliged to give way to them. In other like cases morbid notions with regard to religion may be the exponents of the emotional disturbance of psychical tone.

"Perhaps the most striking form in which the melancholia of children manifests itself is by suicide. So strange and unnatural a thing does it seem that a child of eight or nine years of age should, world-weary, destroy its own life, that one is apt to consider the fact inexplicable. Such act of suicide is certainly done sometimes under a sudden impulse from the dread of punishment or after the infliction of punishment, or it is perhaps deliberately resolved upon in a state of sadness and depression consequent upon ill-treatment by a brutal schoolmaster or parent. Falret mentions the case of a boy of eleven years of age, who was driven by the ill-treatment of his teacher into such a state of melancholia that he determined to starve himself, and made repeated attempts at suicide by drowning. This premature disgust of life will most often be found to be the result of some ancestral taint, whereby the child's nervous constitution is inherently defective and disposed to perverted feeling and irregular reaction. The question of hereditary taint is in reality the important question in an examination of the insanity of early life."

Art. 25.—*Moral Insanity.*

By M. Brierre de Boismont.

(*Annales d'Hygiène Publique,* Nos. 53, 54, 1867.)

The following is a brief resumé of the propositions with which M. Brierre de Boismont concludes an elaborate article, styled, "De l'Importance du Délire des Actes."

1. There exists a variety of mental aberration in which the subjects express themselves with every resemblance of reason, and which is called reasoning folly—the moral insanity of the English. A knowledge of it

is acquired with the greater facility the more the sane man, from which the insane one is a derivation, is observed.

2. This variety of insanity is met with in different forms, more especially in those of maniacal excitement, melancholia, impulsive monomania, &c.

3. This manifestation of insanity, which is but a symptom, is sometimes so predominant that the accessory seems to occupy the place of the principal affection. Prolonged observation of cases of this kind generally ends in the discovery of some of the principal symptoms of mental aberration.

4. The decisive characters of reasoning folly are the delirium of acts and instinctive evil propensities contrasting with rational discourse. Intellectual disorder will, however, frequently show itself in conversation when the patient is not on his guard.

5. The persistence of reason in the speech of these patients, an attribute of this faculty almost indestructible, may present itself in the patient's writing, but when he is observed for any length of time, the delirium of acts is revealed also in his letters.

6. The recognition of reasoning insanity is very important from a medico-legal point of view, as the subjects of this affection are generally inclined to do mischievous acts. Anonymous and calumnious charges, plotting, false and imposing letters, lying in every form, suicide, homicide, accusations of bodily violence, theft, immorality, lawsuits for unjustifiable impeachment, &c., are the common acts of reasoning lunatics.

7. An important differential character separates the individual who is mentally sane from the reasoning lunatic. The former when he is not guilty repudiates any evil impulse, or repents of it if he has been acting under such an influence; the reasoning madman, on the other hand, hardly troubles himself about such acts, and seldom thinks that they are reprehensible.

8. Another character, which is not of less value, is the impossibility of the patient carrying out any steady course of action during the persistence of his illusions.

9 Finally, when the reasoning fool hides his morbid ideas, causes doubt about them, and does not commit hurtful acts, the only course to take is to permit him his liberty, warning him that he is the arbiter of his lot in life.

ART. 26.—*Cases of Epilepsy with complications: Remarks upon Treatment.*

Under the care of Dr. ALTHAUS.

(*The Lancet*, February 16, 1867.)

There are certain complications of epilepsy which have hitherto escaped the attention of pathologists, although they appear to be by no means rare, and have an influence upon the progress of the cases in which they may happen to be present, inasmuch as their neglect may defeat our other therapeutical efforts, however perseveringly followed. Amongst

these complications, Dr. Althaus, in some remarks about the etiology and progress of epilepsy, mentioned chiefly the occurrence of *hay fever* and of congenital *phimosis* in males.

Hay fever was a form of catarrh in which the symptoms of spasm predominated over those of inflammation, and which was mainly due to irritation of the sentient nerves of the respiratory tract, consequent upon the inhalation of the gases arising from fresh grass and hay. The nerves suffered more in this disorder than the mucous membrane, for there were often fits of sneezing which lasted for an hour or more with scarcely any interruption, and such urgent dyspnœa as could not be explained merely by the slight catarrhal affection of the air passages. Hay fever was in nowise a dangerous disorder, but tended considerably to irritate and lower the tone of the nervous centres; and if it appeared in an epileptic patient, it almost always meant mischief, aggravating the attacks if such still occurred, and predisposing to relapses where the attacks had been put down. Being an essentially spasmodic disorder, it was best treated by sedatives, whereby it was generally removed in a very short time. After the symptoms of irritation had subsided, the administration of tonics was usually found necessary.

Sarah S——, aged twenty-eight, single, came under treatment as an out-patient on March 21st, 1866. She has, for the last five years, suffered from epileptic fits, with prolonged loss of consciousness and severe convulsions. The origin of the fits she attributed to a severe attack of small-pox, which she had in the spring of 1861, and which prostrated her a great deal. She has, at present, from four to six epileptic fits during the week, some in the day-time, and some at night. Those which occur in the day are ushered in by visions of large black specks floating about in the air; a sort of faintness then comes over her, which rapidly passes into unconsciousness and convulsions. When she has a night-fit she generally dreams that she is falling, and on waking finds her tongue severely bitten, and feels bruised in the limbs. Emotions have no influence on the occurrence of these attacks. She sleeps very badly, and has horrible dreams, especially about the dead. She often suffers from headache and giddiness. Appetite indifferent; bowels habitually costive. She has lost a good deal of flesh lately, and presents a worn and anæmic appearance. She suffers from palpitations of the heart, and shortness of breath in walking; an anæmic murmur is heard over the base of the heart. The catamenia are pretty regular, although pale and scanty; a short time before the period comes on the fits are more frequent and severe.

The patient was put on a course of phosphorus, tincture of henbane, and cod-liver oil, under which the attacks steadily diminished in number and severity. The last occurred on May 6th. Her strength and general appearance were then very much improved, and she went on favourably till June 29th, when she was seized with a sharp attack of hay fever, of which she has been suffering every summer for the last seven or eight years. There was burning in the eyes, catarrh in the nose, a feeling of rawness in the throat, and very considerable dyspnœa. During the day she was obliged to stop in doors and have the room shaded and the windows closed, but she could go out in the evening.

On July 11th, the patient being then very restless and worn out by

fits of sneezing and dyspnœa, an epileptic attack occurred, in the daytime, after a free interval of sixty-four days. On the 12th she had another bad attack, during the early part of the night. She was very weak and low-spirited. A draught, containing five minims of the dilute hydrocyanic acid and fifteen minims of tincture of Indian hemp, was then given, in mucilage, twice a day, and the other medicines were discontinued. The distress from the hay fever was now at once greatly diminished, and after taking the draught for four days it quite ceased. No further epileptic attacks took place; and the patient got quite well again under the use of nerve tonics.

She was seen on September 26th, being then in excellent health and spirits, and having had nothing to complain of in the interval. It remains to be seen whether the attacks have finally ceased; yet the prejudicial influence of hay fever on the progress of this, as of other similar cases, is obvious.

Congenital phimosis has been observed in eleven out of twenty-five consecutive male cases of epilepsy admitted at the infirmary. That such a frequent complication of epilepsy should hitherto have remained unnoticed can only be explained by the circumstance that epileptic patients seldom come under the eye of surgeons, and that physicians usually neglect to examine the sexual organs. The effects of congenital phimosis on the system are usually quite disregarded, although there can be little doubt that this malformation has a considerable pathological importance. There is always an accumulation of sebum between the prepuce and the gland in such cases, and herpes and balanitis may be the consequence. This irritation often leads to great sexual excitement about the period of puberty, and to masturbation, with all its consequent evil effects; frequent emissions of semen at night may also be traced to the same cause. A variety of cerebral symptoms may then be induced, such as pain in the head, giddiness, noises in the ears, eructations, sickness, &c.; which, where they depend only upon this condition, may be entirely removed by circumcision. Whether actual epileptic fits are ever the consequence of phimosis seems doubtful; yet the propriety of the operation in cases of that kind cannot be questioned, as all sources of irritation should, on principle, be removed in convulsive disorders. Several of these cases which were admitted at the infirmary have been operated upon by Mr. Solly and Mr. Spencer Wells. In no instance, however, have the fits ceased immediately consequent upon the operation; so that a relation as between cause and effect could not have existed between phimosis and epilepsy. Yet, Dr. Althaus said, it generally seemed as if the convulsive disorder, after circumcision in such cases, yielded more readily to the remedies employed than it had done before.

Art. 27.—*Treatment of Cerebral Congestion and Hallucinations by Arsenious Acid.*

(*Medical Times and Gazette*, Sept. 28, 1867.)

M. Lisle, Director of the Marseilles Lunatic Asylum, thus terminates a paper he read to the Academy of Medicine, upon the "Treatment of Cerebral Congestion and Hallucinations by Arsenious Acid":—

1. The insane frequently present more or less distinet signs of cerebral congestion, and the subjects of hallucination always do so. In 193 cases of the latter description treated by arsenious acid, 131, or 67 per cent., were cured, and 29 experienced marked and durable amelioration.

2. Hallucination, considered heretofore as a symptom of insanity, is really only a complication, almost always of serious import. It is the most characteristic symptom of cerebral congestion, the essential nature of which is little known, and which may terminate in insanity, although this is not a necessary consequence.

3. Arsenious acid is truly a specific remedy in this affection. It is also of great utility in paralysis, incoherency, and melancholy unattended with hallucinations, but presenting symptoms of cerebral congestion.

4. Administered with prudence and carefully watched, it is one of the most inoffensive agents of the Materia Medica. The dose should vary from 5 to 15 milligrammes, administered three times a day, just before each meal.

Art. 28.—*Spinal Congestion from Sudden Suppression of Menstruation: Paralysis of the Four Limbs: Recovery.*

Under the care of Dr. Radcliffe.

(*British Medical Journal*, January 19, 1867.)

The following case, for the notes of which we are indebted to Dr. Radcliffe, is one of very great interest. The absence of all intellectual disturbance excluded at once all idea of brain-mischief, while the suddenness with which the loss of motor power set in, its supervention on sudden suppression of menstruation, the absence of fever, of anæsthesia, of cramps, and of rectal and vesical complications, pointed to spinal congestion as the cause of the attack. As to the persistence of the paralysis, it was probably due to a secondary effect of the congestion; namely, an increase in the amount of cerebro-spinal fluid. The order in which the affected parts regained power—first the arms, next the trunk, and last of all the lower limbs—would seem to indicate this, as the fluid would naturally tend to gravitate downwards, and would thus compress that portion of the cord from which the lower extremities derive their nerves.

The patient may be congratulated on her lucky escape; for spinal congestion, when so extensive as to involve the four limbs and the trunk, has been known to terminate rapidly in death by asphyxia, as in an instance communicated by Dance to Ollivier, and related by the latter, in his *Traités sur la Moelle Épinière*, vol. ii., p. 51.

A female, aged twenty-eight, married, thin and emaciated, with grey hair and a worn look, which gave her the appearance of being at least twice her actual age, was admitted into the Westminster Hospital (Tillar's Ward) on June 12th, 1866.

She was able to turn her head on the pillow, and to move her fingers and toes a very little; but, with these exceptions, she lay helplessly on

the bed without the least power of voluntary movement anywhere. Tingling in the fingers and toes was complained of, and also a feeling in the body and limbs of being "tired to death," and of a dull burning aching along the back. The feelings of touch, tickling, temperature, and pain, were over-sensitive everywhere rather than benumbed; the muscular sense was perfect. The sensation of dull burning aching in the course of the spine was increased by the passage of a sponge soaked in hot water, but in no one spot particularly; nowhere in the same region was there any tenderness on pressure. Not the slightest reflex movement was produced by tickling the soles of the feet. The mind was not at all affected. The bladder and lower bowel had lost none of their power. All signs of fever, as thirst, heat of skin, and marked loss of appetite, were absent; and the state was evidently one of great exhaustion and prostration. Indeed, on looking more particularly into the condition of the circulation and respiration, it was found that the pulse could only just be felt, and that what breathing there was was carried on much more by the diaphragm than by the intercostal muscles.

Three weeks ago, menstruation, which had only just begun, was suddenly checked by an alarm of fire. This was shortly before bed-time. The next morning after a very sleepless night, the state had become what it now was, and so it had remained ever since. Before this time, it appears, menstruation had always been scanty, and attended with a good deal of pain and weakness in the back and legs, so that it was difficult at this period "to hold up and get about." The patient was never pregnant; and though often weak and ailing, she had never before been obliged to remain in bed, even for a single day. Neither was there anything very obviously wrong in her family history.

During the next four months the power of voluntary movement returned slowly and steadily, first in the arms, then in the trunk, and lastly in the legs; and at the end of this time it was possible to stand and move about. The tingling in the fingers and toes disappeared within the first fortnight, and so did the aching in the back and limbs; and these feelings did not reappear, except to a small degree and for a day or two at each of the menstrual periods. There never was any trouble either with the bladder or with the bowel all the time she remained in the hospital, which was up to December 3rd; and the only difficulty to be dealt with in the course of the treatment was an occasional slight attack of asthma at night. The treatment pursued was chiefly rest, good living, hypophosphite of soda, nux vomica now and then in small doses, and cod liver oil.

Art. 29.—*On Cerebral "Ramollissement."*

By Dr. H. Soulier, Paris.

(*Gazette des Hôpitaux*, 1867.)

In a clinical study upon cerebral ramollissement, M. Soulier sums up some valuable and interesting remarks with the following propositions:—

1st. Cerebral ramollissement is not of an inflammatory nature.

a. Because the colour of the red ramollissement is simply due either to dilatation of the vessels, or to an infiltration of the colouring matter of the blood.

b. Because the colour of the yellow ramollissement is not produced by a purulent infiltration, but by a mingling of fatty elements with the colouring matter of the blood.

c. Because the elements, generally taken for pus-globules, are either of a fatty nature or are nerve-cells containing pigment; that is to say, they are elements of retrogression.

d. Because the meningeal adhesions are not the results of an inflammatory exudation.

e. Because the temperature of the body is never raised above the normal standard in patients attacked by a ramollissement.

2nd. Cerebral ramollissement is a necrobiosis produced by the arrest of the physiological action of the blood; obliteration by embolism, by thrombosis, by contraction, or obliteration caused by atheroma, and venous obliteration.

3rd. An arterial obliteration may produce congestion in the parts beyond the seat of obliteration. By this may be explained the congestion and capillary hæmorrhage of acute ramollissement (capillary apoplexy of Cruveilhier). Red softening is not inflammatory in its nature.

4th. The granular corpuscles of yellow pulpy ramollissement are the products of retrogression or of necrobiosis.

5th. The disturbances imputed to cerebral congestion ought rather to be attributed to anæmia or cerebral ischæmia.

6th. Persistent muscular rigidity is a late symptom, and belongs to the second period of secondary degeneration (false sclerosis) of the cord.

7th. The anatomico-pathological fact expounded by M. Laborde should not be forgotten, namely, the coincidence of peripheral lesions of the cerebral convolutions, with lesions of the central parts of the brain (optic thalami).

Art. 30.—*The Differential Diagnosis between Chronic Abscess of the Brain and a Cerebral Tumour.*

By Rudolph Mayer.

(*Zur Path. d. Hirnaliscepe. Zurich,* 1867; *Aerztliches Literaturblatt,* No. 7, 1867.)

Symptoms of compression of the brain are presented in cases in which it remains doubtful to the last, whether the organ be compressed by a tumour or by the increasing distension of a purulent cyst; in these cases also inflammation is set up around the seat of deposit. Although the cerebral compression caused by the cyst is manifested earlier than the compression created by the slow and regular growth of a tumour, and the inflammation created around an abscess is manifestly more extensive and more rapidly fatal than that caused by a tumour, still the

symptoms of both affections are similar. It is only by a knowledge of incidental occurrences, combined with a close observation of the course, and a carefully considered examination of the symptoms of the two affections that a diagnosis is rendered possible.

I. *Differential signs derived from Ætiology.*—(*a*) Injuries lead to cerebral abscess with much greater frequency than to cerebral tumour. Certainly cases of brain tumour following an injury in "a predisposed individual," are no longer to be looked upon as very rare occurrences, but still they are exceptional. Fractures, injuries of the skull with penetration of foreign bodies, separation of the pericranium, and severe concussion of the brain, are very important complications. An abscess may be almost safely diagnosed, if in the course of a few days symptoms of impaired motility and sensation come on, followed by a longer or shorter remission, and afterwards by partial convulsions and paralysis, the latter being generally of a hemiplegic form. The less distinctly the symptoms of deposits are presented, the more uncertain is the diagnosis. Paralysis at the commencement of the symptoms declares either a rapidly progressive suppuration, or on the other hand, that the injury occurred more than a few days before. (*b*) Chronic inflammation of the mucous membrane of the external and internal air-passages with chronic inflammation of the mastoid and squamous parts of the temporal bone,—either osseous dissolution (caries) or thickening of the bone—speaks for an abscess, not a tumour of the brain. Cases, however, have been reported in which a cerebral tumour was developed after a chronic otitis. If after prolonged lesion of the mucous membrane of the ear, symptoms of brain affection come on, which cause death within three or four weeks after the signs of cerebral deposits, abscess of the cerebrum on the side of the diseased ear, may be diagnosed with almost perfect certainty; if, on the other hand, the symptoms consist in severe pain at the back of the head, accompanied with frequent vomiting, but seldom with general convulsions, it is very possible that the case is one of abscess of the cerebellum. (*c*). If after the long continued presence of an abscess in the abdominal viscera, particularly in the liver, brain symptoms appear which may point either to a tumour or to an abscess, the presence of an abscess is by far the more probable. (*d*) Chronic inflammation of the nasal mucous membrane following an acute inflammation of the face, points, cæteris paribus, to cerebral abscess, and also affections in the course of the general vascular system.

II. *Differential signs from special symptoms.*—(*a*) The headache lasts longer and is generally more severe in cerebral tumour than in abscess, but in the latter affection it is followed more rapidly by complications than with tumour. It is not so neuralgic in its character in cases of abscess, does not increase in severity from the commencement, but is more regular, which is not frequently the case with a tumour; changes in position have also a marked influence upon the headache in cases of abscess of the brain. (*b*) Anæsthesia and dysæsthesia are generally, when they come on without paralysis of motion, more frequent with tumour. (*c*) Impairment of the mental functions is disproportionately less frequent with abscess than with tumour. (*d*) General convulsions are symptomatic neither of tumour nor abscess. Hemiplegia coming on after an epileptic attack, points rather to abscess than to tumour. If

the intermissions between the attacks of convulsion be perfectly clear, the case is then more likely to be one of tumour. (*e*) Partial convulsions form a valuable symptom of deposit in the brain, but one of no importance for the differential diagnosis. (*f*) Persistent mental disturbance tells absolutely against an abscess. (*g*) Considerable febrile affections, particularly repeated rigors, generally declare rather for abscess than for tumour.

III. *Differential signs from the course of the disease.*—The progress of the disease is much more regular in tumour than in abscess which in typical cases of chronic course presents an acute stage of preliminary symptoms, a long continued and perfect latency, and a final stage of increasing growth. When the abscess has entered upon its third stage perfect remissions of the symptoms are very rare. A tumour has no first acute stage during its formation, the intermissions, too, between the severe symptoms are with it more perfect.

Art. 31.—*Mania Acutissima occurring during a Paroxysm of Intermittent Fever.*

By Professor Erhardt, of Kiew.

(*Allgemeine Zeitschrift für Psychiatrie*, vol. xxiii., 1866, and *The Journal of Mental Science.*)

Professor Erhardt gives the details of a case presenting this complication which became the subject of medico-legal investigation. The patient, Nasar Titon Glot, was a young man of thirty years of age, who had served as a soldier since 1855, and had always borne an exemplary character. He had suffered in 1863 from an attack of intermittent fever of ten days' duration. On the 1st of April, 1864, he was again attacked with ague, but did not make use of any remedy. On the 6th of the same month he walked to the bathing-room of a neighbouring village, about five miles distant from where he lived. He had felt a paroxysm coming on before he left home, but felt quite well during his walk. The first rigor occurred on his arrival at the bath-house, but after he had remained some time in the vapour-bath and had also taken a hot water bath it passed off. He remained an hour and a half in the bath and then returned home. While dressing after the bath the cold sensation came on, but when he had gone two miles towards his home the hot stage began, and became so severe, that he was scarcely able to reach his dwelling. There he was met by Lucie K—, who with her mother lived in his house. The latter was completely paralysed and lay on a low plank-bed. Glot immediately on entering threw himself on a bench, and, according to his own account, fell into unconsciousness, and in his opinion remained in that condition for about an hour. As he came to his senses he felt himself better, his head was freer, but he was conscious of pain in the genitals, and he also perceived that the room was in disorder. The window and the cooking utensils were broken, and the old woman lay no longer on the bed, but beside him on the floor, and her neck was covered with blood.

According to the account given by Lucie K——, Glot's expression after his return from the bath was remarkably altered, and the perspiration was pouring from his forehead. On entering, he remained standing in the front room, and then turning round as if intending to go into the other room, saying to the old woman, Marie K——, "Go, shut the front door and I will go into the next room." He did not go, however, but tried to get upon the stove, and got down directly, then taking a new idea into his head he called to Marie to give him a fur. When Marie had given him hers he put it on, and threw himself upon his knees before the "holy picture," and remained there. He again prostrated himself before it, and, taking the cross which he wore from his neck, called out, "Merciful God! I would kiss Thee were I not unworthy." Thereupon he threw himself upon the floor and struck it with both head and hands. He then took the cloak which he wore and tore it, his coat and his shirt, and began to call out "Give me a knife and I will kill you all." Lucie K—— being alarmed, ran out to call for assistance, and took the knife and axe with her, but unfortunately forgot a shoemaker's knife which was on the bench. After her departure, Glot first smashed the window-panes and the crockery, and then seized old Marie K——, dragged her from the bed, and set himself to kill her. When she begged him to spare her life, he replied, "Do not scream, I will not kill you; that would be a sin; but I will kill myself." He then sat down on the ground, cut off his scrotum, and covering himself with his cloak, lay down. After an absence of half an hour Lucie K—— returned and found him in that position. The scrotum and Glot's knife lay on the ground under the bench.

The surgeon who was sent for stopped the bleeding in the wound, and Glot was taken to the hospital, where he had another paroxysm of the intermittent. He never exhibited any further symptoms of insanity; and after a careful investigation he was set at liberty, as having been labouring under transitory mania at the time of the deed. Professor Erhardt discusses the medico-legal points fully, and especially controverts Casper's rejection of mania transitoria as a valid condition of irresponsibility.

Art. 32.—*Case of Hemeralopia successfully treated by Strychnia and Opium combined.*

By W. H. Gardner, M.D., Assistant-Surgeon and Brevet-Major U. S. A.

(*American Journal of Medical Sciences*, April, 1867.)

"Michael Carland, a private of Co. F, 10th U. S. Infantry, was admitted into Post Hospital, Fort Abercrombie, D.T., June 20, 1866, with chronic hemeralopia (night-blindness), with which he had been afflicted for over three months. He was a large, stoutly built Irishman; an iron-puddler by trade.

"When he entered the hospital there was some congestion of conjunctivæ, and slight headache; bowels had not been moved for two days,

There was no fever or excitement of the pulse; iris contracts or expands slowly; can scarcely see at all at night, even in bright moonlight. I ordered him to be cupped over each temple; to have four compound cathartic pills at bedtime, and to be placed on half-diet.

"During the four months which followed his admission, I successively tried mercury to salivation, potass. iodid., valerianate of zinc, iron, quinia, &c.; besides counter-irritation by blisters, kept open for over two months; and also strychnia, but with no beneficial result. Finally, I gave him strychnia and opium combined in the following prescription, and improvement was evident in less than one week after he commenced taking it: ℞—Strychnia, gr. j; tinct. opii, ʒiij; acid. acetici, gtt. v; aqua distil. ʒijss.—M. S.—A teaspoonful each night and morning. This dose I gradually increased to three teaspoonfuls per day. A few days after the last increase of the dose he was returned to duty cured. When he commenced to take the strychnia and opium combined, his general health was excellent; but the disease of the eyes had so progressed that he was somewhat worse than when he entered the hospital. He was totally blind after sunset, and could only see the brightest artificial light as a "faint glimmer." The pupils at all times—especially, however, at night—were widely dilated, and contracted very slowly under the stimulus of light. He has now been on duty nearly two months, and has yet had no return of the disease.

"Save the congestion of the conjunctivæ mentioned when he first came in, I could discover no disease of the eye externally; but having no ophthalmoscope, I could not examine the internal structure. If this union of apparent incompatibles has ever been used before in this disease, I am not aware of it, and therefore send this case for publication."

Art. 33.—*On Affections of the Spinal Cord accompanying Chronic Articular Rheumatism.*

By M. Charcot, Paris.

(*Gazette des Hôpitaux*, No. 60, 1867.)

In a clinical lecture delivered at the Hospice de la Salpétrière upon "the visceral lesions observed in chronic articular rheumatism," M. Charcot made the following remarks upon lesions of the spinal cord:—

"Chorea, the connexion of which with acute rheumatism has been so plainly demonstrated, does not appear to exist when the articular disease is chronic, at least, no instance of the kind has been observed by M. Charcot.

"Many diseases, however, which spring from the spinal cord are met with in chronic rheumatism.

"Paralysis agitans or trembling may exist in connexion with partial or general chronic rheumatism. Many cases of locomotor ataxie have been observed in patients affected with dry arthritis and deposits about the joints.

"Paraplegia is rarely present at the same time as acute or sub-acute rheumatism, and it is very necessary to take care not to confound the

articular pains occurring in spinal affections with the pains of fixed rheumatism of the joints, for traumatic lesions of the cord sometimes cause a painful swelling of the articulations, as has been noticed by Mitchell, Morehouse, Remak and many other observers."

Art. 34.—*Cases of Defect of Speech, with Hemiplegia of the Right Side.*

Under the care of Dr. Peacock.

(*Medical Times and Gazette*, Oct. 26, 1867.)

Within the last few weeks a series of cases, illustrating the connexion between hemiplegia of the right side and the loss of the power of speech, or aphasia, have been under Dr. Peacock's care at St. Thomas's Hospital. One of these cases was that of J. E., aged thirty-nine, a married woman, but without children, who was admitted on July 19th. She had been seized with a fit four days before her admission, when she was taking her supper, and fell off the chair in which she was sitting; and when, after an interval of about half an hour, she recovered her consciousness, she was found to be paralysed on the right side, and incapable of speaking. She probably had another fit the following night, as she fell out of bed. When admitted, she had complete loss of the power of movement in the right side, and could not utter any articulate sound, so that she had to express her wishes by signs, her intelligence being apparently unimpaired. About two months after she was received she again had an attack, apparently of an epileptic character, which, however, left her much in the same state as before. During the time she has been in the hospital there has been no material improvement in the state of the right limbs, and she has not been able to utter any articulate sound. It is doubtful whether the sensation is impaired in the paralysed limbs, but she appears thoroughly conscious, and conveys, indeed, the impression of being a person of unusual intelligence. There is no loss of power over the lips and tongue, and she swallows without any difficulty. She makes signs to indicate her wishes, and sometimes becomes much excited and cries if her signs are not understood. Attempts have frequently been made to get her to write; but though, when a slate is given to her, she makes marks upon it, there is no resemblance in them to any letters or words.

In the next bed to this patient is one whose case is the very converse to the first, the paralysis being on the left side, and the power of speech being unimpaired. The case is that of a female, H. H., aged forty-nine, unmarried, and who for twelve months, concurring with the cessation of the catamenia, had suffered from symptoms threatening cerebral disease. She was suddenly seized, ten days before her admission, as she was leaving her home to go to church. She first let her prayer-book drop out of her hand, and then fell down, retaining, however, according to her own account, her consciousness all the time. When she attempted to rise she found that she had lost the power over her left side, and she

spoke thickly, and had some difficulty in expressing herself; but that soon subsided. When admitted she was completely paralysed in the left side, but she spoke perfectly distinctly and clearly, and her intelligence seemed unimpaired, though the nurse said she was disposed to talk too much, and not always rationally. She has not materially improved since her admission, but says she has pains, and feels more power in the paralysed limbs. Her speech has at no time been at all affected.

In two other cases the right side was paralysed, though less completely than in the former instances; and in both of them there was some defect in speech, though to a much less marked degree than in the first case. One of them was a female, aged fifty-seven, admitted August 4th. There were bedsores on the back and hips and on one leg; she had some power over the right arm and leg, and she spoke thickly and sometimes could with difficulty be understood; occasionally also she made use of wrong terms, addressing her nurse as "sir," and the doctor as "ma'am," without apparently being conscious of the mistake. Under a tonic course of treatment and careful management, the bedsores rapidly healed, and she partly recovered the use of the paralysed limbs, but the power of speech and the defect of the memory of words continued much the same during the two months that she was in the hospital.

The fourth case was that of a man with imperfect paralysis of the right side, and some, but not very marked, impairment of speech.

Art. 35.—*On the Treatment of Delirium Tremens by Cannabis Indica.*

By John Beddoe, B.A., M.D., &c., Physician to the Bristol Royal Infirmary; Consulting Physician to the Bristol Hospital for Sick Children.

(*Medical Press and Circular*, Oct. 16, 1867.)

During part of Dr. Beddoe's term of office as Resident-Physician in the Edinburgh Royal Infirmary in the years 1854-55, he happened to have the entire control of what was commonly called the "D. T. ward." Having previously seen some cases in which opium had appeared to disagree, and thinking, from what he had learned from Professor Christison of the mode of action of cannabis that it would probably act as a hypnotic without lessening elimination, he prescribed it in the first case that came under his hands, and the result was so encouraging that he repeated the experiment. During six months he had, he believes, as many as eighteen cases of delirium tremens. One of these being suspected of meningitis, was treated with antimony; and two other patients, being very unruly and absolutely refusing the nauseous draught of tincture of cannabis, got opium by mouth or rectum; but to all, or almost all the others, so far as he can recollect, cannabis was administered, and with highly satisfactory results. The only one of the whole series who did not perfectly and speedily recover was the one who

took antimony; he was an Englishman, and was after a time removed in a half imbecile condition to the poorhouse of his native place.

In speaking firstly on the form, and secondly on the manner of administration, Dr. Beddoe says: The tincture is preferable to the extract for its rapidity of action; but it is (*experto crede!*) extremely nauseous, and some patients refuse it, or require much coaxing to induce them to swallow it. Of late he has given the extract, made into a pill, with an equal quantity of sulphate of potash, the hardness of which makes it suitable for finely dividing the resinous extract, and thus hastening its solution or suspension in the gastro-intestinal fluids.

He usually begins with a grain of *good* extract, or twenty minims of the tincture: waits from four to six hours, and then, if the patient be awake, gives a double dose. If this also prove fruitless, six hours later he gives three or even four grains; then allows six or eight hours to pass, and, if necessary, tries a yet larger dose. Longer intervals are needful for extract than for tincture. In one case Dr. Beddoe proceeded as far as two drachms (= 6 grs.) before the patient succumbed to the hypnotic influence; he slept several hours, and awoke almost well. This plan he thinks far better than the ordinary one of giving moderate doses of a narcotic every two or three hours, whereby a second or third dose is introduced before one can tell whether the first would not take effect. Moreover, in the case of opium at least, a succession of small doses is apt to stimulate instead of sedating the patient. Dr. Beddoe has always given as much soup, milk, and other digestible food, as the patient's appetite and stomach could receive (cannabis does not dull the appetite as opium often does); and has never given alcoholic stimulants except when the quality of the pulse distinctly indicated them.

Art. 36.—*On Convulsive Tremor.*

By William A. Hammond, M.D.

(*New York Medical Journal*, June, 1867.)

Dr. Hammond states, in an elaborate article, that, in 1822, Dr. Pritchard* described, under the name of convulsive tremor, an affection which, so far as he is aware, has not since been distinctly alluded to by any other author. Dr. Pritchard's attention was first directed to the matter by observing that in some epileptics fits of rigor or of tremor appeared to take the place of the ordinary paroxysm. This was particularly the case when the violence of the original disease was mitigated by remedial measures.

Subsequently, he had under his care several patients who laboured under a disease consisting of violent tremulous agitation of the muscles, attended with unpleasant internal sensations. These latter were generally vertigo, stupor, and intense cerebral pain. The legs and feet were

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* *A Treatise on Diseases of the Nervous System.* Part the First. Comprising Convulsive and Maniacal Affections. London, 1822. pp. 393.

sometimes cold, whilst at the same time the head, neck, and chest were hot, and bathed in a profuse perspiration. There was, however, no general sensation of chilliness, and the condition was altogether different from that of the cold stage of intermittent fever. After the paroxysm had continued some time it subsided spontaneously, and was not followed by any accession of heat.

As Dr. Pritchard states, this peculiar affection had not attracted much attention from medical authors. He cites, however, a case from Tulpius, of a young unmarried woman, of pale complexion and phlegmatic temperament, who was afflicted during three years with what was called a shaking palsy, which did not affect her constantly, but came on in periodical fits. Each paroxysm lasted nearly two hours, and was accompanied by hoarseness and loss of voice. He also refers to other cases quoted by Sauvages from Bonetus, in which the symptoms were very similar, consisting of convulsive tremor, attended with headache and vertigo. This disorder was fatal in a few days, and it is added that after death an entozoon was found in the brain.

Dr. Pritchard then relates his own cases, of which the following account is an abstract:—

John Pugh, a carpenter, of meagre habit, low stature, and dark hair, aged forty-five, was admitted into St. Peter's Hospital, March 1st, 1820. About a month previously, he had suffered from tonsillitis, and subsequently had some difficulty of breathing, which was supposed to be asthmatic. He had complained of headache for some time. On the 23rd of February he was attacked with a violent tremor, which continued for two or three hours, and then went off after he had taken an emetic. It recurred on the following day, at the same time, and on every succeeding day about the same hour. At the time of his admission he was labouring under a paroxysm.

On first looking at the man, Dr. Pritchard supposed him to be in the cold stage of intermittent fever; but on closer and more careful examination his affection was seen to be very different. All the muscles of the upper extremities, including those connected with the ribs, clavicle and scapula, were constantly agitated by a convulsive movement, which was almost entirely confined to them. The lower extremities were quite free from disorder. The man was perfectly conscious, and able to answer any question distinctly. His pulse was quick, and apparently irregular. Owing to the constant agitation of the tendons, it was difficult to arrive at certainty on this latter point. The skin was warm, and there was no sensation of chilliness. The upper part of the body was in a state of profuse perspiration. He complained of vertigo and headache.

Blood-letting was ordered; a large orifice was made, and the blood allowed to flow till thirty-eight ounces had escaped, when syncope ensued. When half the above quantity had passed, the tremor became more general and severe. The gluteal muscles were so greatly convulsed that by their action the patient was thrown up from his seat with the motion of a man sitting on a trotting-horse. When he became sick and faint the arm was tied up and he was laid upon a bed. The tremor immediately ceased, except some slight and partial quivering.

He was then strongly purged, and this operation was continued every

night. On the 5th, at 11 a.m., the tremor returned. Cold affusion was directed; as soon as the cold water was thrown over him the tremor ceased.

On the 9th, there had been no return of the tremor. Calomel and sulphate of magnesia were now prescribed, and on the 11th the tremor returned, lasting, however, but about twenty minutes. From this time he was free from the affection, but as might have been expected, when the character of the treatment is considered, he fell into a state of debility. There were loss of appetite, cough, expectoration, and inflammation of the vein, ensuing from the bleeding.

In the next case related, the paroxysms of tremor were the most remarkable feature, but there were also stupor and delirium.

Dr. Pritchard states that he met with two other instances of paroxysms of tremor, unaccompanied with spasms, and occurring in persons who had suffered from an attack of paralysis.

Dr. Pritchard has, in Dr. Hammond's opinion, evidently embraced two or three separate affections under the designation of convulsive tremor. The first case quoted from him appears to be a distinct disorder; the second case was probably one of cerebral congestion; and those which he states he had seen as the sequence of paralysis were, doubtless, what is now called paralysis agitans. With the exception of the first case, none that came under his observation resembled those which Dr. Hammond proposes to describe in this paper, and to which he thinks the term convulsive tremor can be applied with propriety.

"J. S., a gentleman, aged thirty-five, single, and engaged in mercantile pursuits, consulted me on the 14th of March, 1867, for an affection which, as he said, was 'driving him mad.' Ordinarily, he had nothing to complain of on the score of health. His appetite was good, and all his functions were performed with regularity; but two or three times during the course of the day he would be seized with severe and unrestrained muscular tremor, involving his head and all the muscles of the trunk and arms. At the same time there would be slight headache and vertigo, and an intense feeling of anxiety. There was no loss of consciousness, not even for an instant, nor inability to walk or to direct any muscle, and no confusion of thought. After the paroxysm had lasted fifteen or twenty minutes it gradually passed off, leaving him in a profuse perspiration. Whilst he was sitting in my library an attack came on. He was seized with as much suddenness as though he were struck with an epileptic fit. His head shook violently, the muscles of his face were convulsed, his arms and hands trembled, and his gluteal muscles contracted so powerfully as to cause him to move convulsively up and down on his chair. His lower extremities were altogether free from spasm or convulsion. Upon putting my hand on his wrist, I found that every tendon was in action, and in the arm, hand, neck and face, the vibration of the muscular fibres could be distinctly seen and felt. I thought the action was greater on the left than on the right side.

"The thermometer applied to the axillæ marked 101° Fahrenheit, and the æsthesiometer showed an increased sensibility of the skin of the face, neck, hands, and all the upper parts of the body I examined. The respiration was quickened, and the pulse was increased from 80 to 95 per minute.

"During the continuance of the paroxysm he conversed rationally, but with some difficulty, owing to the action in the muscles of the neck, mouth, and chest. The pupils contracted briskly under the influence of light, and dilated when it was shut off. Several times he rose from his chair and paced the room; his movements were perfectly well made. There was a little headache confined to the occipital region, and a slight but persistent vertigo.

"I desired him to perform a few movements with his hands, such as unbuttoning and buttoning his waistcoat. He had no difficulty in carrying his hands to the buttons, but it was impossible for him to seize them, and the more his efforts were directed to this end, the more difficult it was for him to accomplish it. The trouble was not in loss of strength, for when I asked him to grasp my hand he did it with great force, but in the tremor being so constant that he could not keep the ends of his fingers at any one point.

"After the paroxysm had lasted about fifteen minutes it began to subside, and in ten minutes more had entirely passed away. The thermometer in the axillæ now marked but 98° Fahrenheit, and the hyperæsthesia had disappeared, leaving the sensibility of the skin natural. The respiration and pulse became normal in frequency.

"Upon questioning this gentleman, I ascertained that he had indulged to excess in venereal pleasures, and that the first attack of tremor had begun during sexual intercourse. He said, that just as the orgasm was approaching its height, he had experienced a severe pain in the back of his head, accompanied with tremor. That, notwithstanding, he had completed the act, but felt very greatly debilitated after it; the tremor continued for a few minutes and then passed off. This was about four months before I saw him. Since the beginning of his disorder he had entirely abstained from all sexual indulgence, but his tremors had not left him for a single day. In consequence, he was low-spirited, and apprehensive of losing his reason.

"Being of the opinion, from attentive consideration of all his symptoms, that a prominent feature of his condition was some cerebellar trouble, I put a seton in the nape of his neck; and with the view of regulating the intracranial circulation and quieting his nervous system, placed him upon large doses (thirty grains three times a day) of the bromide of potassium. I also subjected him twice a week to the action of the constant galvanic current, with a view to the exercise of its tranquillizing influence over the muscles. In a case referred to by Dr. Handfield Jones* its action was decidedly beneficial.

"Under this treatment he gradually became better. On one occasion when he visited me I had the opportunity of applying the galvanism during a paroxysm, and the effect in quieting the muscular action was well marked. Faradization increased the tremor. I lent him a galvanic pile, and instructing him how to use it, directed that whenever a paroxysm came on he should at once apply the current by taking the poles in his hands.

"On the 3rd of May he called and reported himself as entirely cured.

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* *Clinical Observations on Functional Nervous Disorders*, p. 165.

He had had no tremor for ten days, and had altogether recovered his good spirits."

The next case related by Dr. Hammond was—A. T., a young lady, aged twenty-one years, who was sent to him, March 28th, 1867, by Dr. C. F. Taylor, to whom she had gone to be treated for lateral curvature of the spine. For four years she had been afflicted with a disorder certainly very singular in its characteristics, and for which she had been treated by many physicians of many systems of practice. The chief and most distressing feature was a spasmodic action of the diaphragm, coming on every ten or fifteen minutes, producing convulsive respiration, a feeling of impending suffocation, and great mental anxiety. The paroxysm lasted four or five minutes, and then passed off with a long, deep-drawn sigh. None of the respiratory muscles but the diaphragm were convulsed. By placing the hands over the abdomen this muscle could be distinctly felt in a state of rapid and irregular action. In the intervals of the diaphragmatic paroxysms there were frequent tremors of the arms, legs, and head. There was almost constant headache, extending across the crown to the cerebellar region. There was no fever, nor increased temperature, but great hyperæsthesia of the whole surface of the body.

The menstrual function was regular and normal in every respect, and there was no evidence of hysteria. Her appetite was bad, and what she did eat was not of a very nutritious character. Occasionally she was subject to fits of great mental and muscular excitement, during which she fought and bit all who came near her; but there was no mental aberration. There was loss of strength in the upper and lower extremities, so that she was not able to help herself, or move about with facility. She had never been subject to intermittent fever.

In this case the convulsive tremor, though more prominently manifested in the diaphragm, was not confined to this muscle. There was not the entire cessation of tremor exhibited in the first case, and the paroxysms were much less uniform and much more extensive in their character. In both cases the tremor was absent during sleep.

Whilst she was suffering from a paroxysm of diaphragmatic tremor, Dr. Hammond applied the constant galvanic current by placing one pole over the left phrenic nerve, between the sternal and clavicular orifices of the sterno-cleido-mastoid muscle, and the other over the right costal attachment of the diaphragm; almost instantly the tremor ceased; he then passed the current through the right phrenic nerve in the same way. Though she stayed in Dr. Hammond's office for half an hour subsequently, there was no return of the paroxysm, and he was informed that she did not have another for several hours.

As this young lady was anæmic, and had little appetite, Dr. Hammond prescribed the pyrophosphate of iron dissolved in dilute phosphoric acid, two grains of the former with half a drachm of the latter, in a little water, three times a day. She also took ten grains of the bromide of potassium and ten of the bromide of ammonium twice daily—the last dose being taken at night on going to bed. A seton was introduced into the back of the neck, and, in addition, the constant galvanic current was passed through the phrenic nerves and the muscles generally

twice a week, a *séance* occupying about twenty minutes. Full meat diet and beer, and regular exercise in the open air, were enjoined.

Under this treatment she continued to improve steadily, until now (May 10th) she is almost entirely relieved of the diaphragmatic paroxysms. There is still a little convulsive tremor occasionally in the arms and legs, but the paroxysms have greatly diminished in violence and frequency, and will doubtless soon cease altogether.

On these cases Dr. Hammond remarks that the success of the treatment abundantly justified the view, that the condition depended upon a disorder of the cerebellum, unattended with any serious organic lesion, and consisting essentially in congestion of some limited portion of its substance. An erethismic state of the nervous system was thus induced, which the bromide of potassium, tincture of hyoscyamus, counter-irritation, and constant galvanic current, were well calculated to relieve. The cases are interesting as instances of severe convulsive movements without any very marked cerebral disturbance, and as exhibiting the effects of remedies, some of which are of recent introduction into the therapeutics of this class of disorders.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 37.—*Lesions of the Respiratory Organs accompanying Chronic Articular Rheumatism.*

By M. CHARCOT, Paris.

(*Gazette des Hôpitaux*, No. 60, 1867.)

Pleurisy may occur in patients affected with subacute or chronic rheumatism, but it has been noticed much more frequently in the acute form of the disease.

Acute pneumonia is a frequent complication of acute rheumatic arthritis, but M. Charcot has never known it to occur in the chronic form of the disease; he has seen undoubted cases of chronic pneumonia in rheumatic patients, but these were cachectic subjects.

Rheumatic congestion of the lungs, that formidable disease that exposes the patient to the risk of a sudden death, may be met with in connexion with chronic rheumatism. Dr. Ball has reported a remarkable case of this affection.

Certain thoracic affections present themselves particularly with chronic and irregular forms of rheumatism. Asthma followed by emphysema occurs in this affection as frequently as it does in gout; Dr. Ganod has directed attention to the existence of chronic laryngitis in rheumatic gout.

It is still a doubtful question whether pulmonary phthisis has any connexion with chronic rheumatism.

Art. 38.—*Prophylaxis of Whooping-cough.*

(*The Lancet*, Oct. 26, 1867.)

M. Davreux (of Liège) uses the following mixture: Extract of aconite, 1 grain; laurel-water, 1 fluid drachm; ipecacuanha-syrup, 45 drops; solution of gum arabic, 7 ounces; one teaspoonful every hour for an infant, two for children above three years, and a tablespoonful for adults. The medicine should be given from eight to ten days, although there may be no cough. The remedy succeeds remarkably when the latter is not of long standing. On the subject of whooping-cough, it may be mentioned that M. Poulet has found infusoria in the breath of patients suffering from that complaint. He concludes that whooping-cough should be classed among diseases as infectious as variola, scarlet fever, typhoid fever, &c.

Art. 39.—*Spasm of the Glottis.*

(*The Lancet*, July 6, 1867.)

This subject has lately been treated by M. Bouchut in a paper read before a new society—viz., the "Société de Thérapeutique," founded in Paris a few weeks ago. The author thinks that during the fit cautious inhalations of chloroform or ether are useful; and, when the child seems asphyxiated, we should be indefatigable in the use of stimulating frictions and artificial respiration. But the fits are so short that therapeutical measures should be resorted to, especially in the intervals of the fits. M. Bouchut has found musk, cod-liver oil, phosphate of lime, and sea-water baths the most reliable remedies in spasms of the glottis and the diaphragm.

Art. 40.—*On a Particular Cause of Error in the Diagnosis of Certain Cases of Pleuritic Effusion.*

By M. Woillez.

(*Transactions of the Medical Society of the Hospitals of Paris. Archives Générales de Médecine, July*, 1867.)

The aim of this paper is to show that there may be an absence of the characteristic signs of pleurisy, although considerable effusion exists in the pleural cavity. In two patients whose histories are reported by M. Woillez, auscultation and percussion were both at fault, since, although in both instances there was considerable effusion, the respiratory murmur was transmitted to the ear, and percussion gave a tympanitic sound.

Case 1.—Pleurisy on right side lasting up to the twenty-first day. Thoracentesis. Return of the effusion without complete physical signs. Death from the unrecognised progress of the pleurisy.

Case 2.—Purulent pleurisy, apparently diminishing on examination, notwithstanding an unceasing progress until the time of death.

MM. Barthez and Rilliet, in 1852, explained the cavernous or amphoric respiration presented in certain cases of pleurisy, by the condensation of the pulmonary tissue, and also by the approximation of the lungs to the ribs, and by the resonance of the laryngo-bronchial bruits in the condensed tissue. M. Woillez quite admits this explanation of the facts that he has reported, but remarks at the same time that he had not to deal in these with an amphoric or cavernous bruit, but with a vesicular murmur. But it may be readily conceived, he says, that the respiratory murmur, produced in condensed lung by compression, may be exaggerated there without taking on the blowing, cavernous, or amphoric character, and be transmitted with greater facility from thence through the effused fluid.

M. Woillez thinks that the tympanitic sound on percussion even over the effusion was in his two cases due to a part of the condensed lung being fixed by adhesions in contact with the walls of the chest, and that this wall transmitted the tympanic bruit, the anomaly of percussion belonged then to a transmission of sound through the thoracic walls rather than through the effused fluid. "This explanation," the author states, "seems to be the correct one, since the same effects can be produced by percussing a closed cask, containing a liquid surmounted by a certain quantity of air. The same clear sound which is obtained superiorly by percussion of the cask at the level of the air, is obtained also below, at the level of the subjacent liquid. In this experiment, the air covering the liquid plays the part of the lung flattened and condensed by effusion."

Art. 41.—*Bleeding in Pneumonia.*

(*Medical Times and Gazette*, October 12, 1867.)

The recent inquiries of M. Macario lead him to conclude, contrary to the opinion of Dr. Hughes Bennett, of Edinburgh, that bleeding to a certain extent is beneficial in pneumonia. He gives the result of cases treated according to different methods. In the first table he records the cases treated by bloodletting one to three times, and by tartar emetic in large doses. There were 202 cases; 17, or 8 per cent., of these cases being fatal. In the second table are the cases treated by leeches applied once or twice, and with large doses of tartar emetic. These were 33; 6 cases were fatal, or nearly 18 per cent. In the third table are the cases treated by emetic alone; of these there were 16 cases, and two deaths, or 12 per cent. In the fourth table are 5 cases treated by antimony alone; of these one was fatal, or 20 per cent. M. Macario concludes that although in Scotland, where a foggy atmosphere and lymphatic temperament prevail, a tonic treatment may be best; in warm climates a little bloodletting is beneficial in the treatment of pneumonia.

Art. 42.—*The Alcoholic Treatment of Pneumonia.*

(*British Medical Journal*, September 7, 1867.)

MM. Béhier and Jaccoud have employed rather extensively the treatment of certain kinds of pneumonia initiated by Dr. Todd, consisting of the employment of 100 grammes of brandy. This quantity may be increased to 150 grammes for men without inconvenience. It is better, when administering it to women, to commence by giving 50, and to increase gradually to 80 grammes, not overstepping that quantity. As soon as the adynamia is decreased, and a real amelioration becomes manifest, the dose should be lessened, but never suppressed at once, as a recurrence of collapse, which it would be difficult to arrest, would seriously prejudice the result. In order, as far as possible, to prevent this relapse, M. Jaccoud gives, after the brandy, Bordeaux or Burgundy wine in daily doses of 200 to 300 grammes.

Art. 43.—*On the Treatment of Pneumonia.*

By A. T. H. Waters, M.D., F.R.C.P.

(*British Medical Journal*, Oct. 12, 1867.)

In a clinical lecture delivered at the Liverpool Northern Hospital, on the treatment of pneumonia, Dr. Waters remarked that no single line of practice will, in his opinion, ever be found applicable to all cases of pneumonia. In the treatment of each case, you must have regard, not simply to the amount of lung involved, or the stage which the disease has reached, but also, and more especially, to the constitutional condition of the patient, the frequency and character of the pulse, and the antecedent circumstances, as far as you are able to ascertain them.

"You will have observed," Dr. Waters said, "that the treatment which I adopt is not characterized by the exhibition of large doses of any of the so-called antiphlogistic remedies; that I never withhold nourishment from the patients when they can take it; and that I do not resort to powerful purgatives. On the other hand, you must have noticed that in many cases I prescribe stimulants at an early period of the disease.

"Let me say a few words with reference to blood-letting. In the series of cases which I have tabulated, I have never resorted to venesection, and only occasionally, and that in the earlier numbers of the series, to cupping or leeching. I believe there are few cases now met with which are benefited by general bleeding; and that the abstraction of blood by the cupping-glasses or leeches is not often necessary. No doubt this local bleeding often gives great relief; but I think we can generally afford equal relief by the use of other measures.

"I fear I must tell you that I do not believe we possess any single remedy which is specially and specifically curative of pneumonia; but at the same time I believe we do possess certain agents which, by their general effects on the system, exert a decided influence in the disease.

"An agent which has been vaunted, and very largely used in pneu

monia, is tartar emetic. It is a remedy which you will see me prescribe occasionally; and of its value in some cases I do not entertain any doubt. There are many cases, however, in which antimony must not be given at all, cases which are marked from the outset by a weak and rapid pulse, and in which it is plainly manifest that there is a want of constitutional power. Again, with regard to this remedy, there are few cases, I believe, which require, or are benefited by, a prolonged administration of it: nay, I think that I may say that there are few cases that are not injured by such a practice; and wherever the drug produces a decidedly depressing effect, wherever it gives rise to sickness or purging, I believe it does harm, and should not be persevered with. In promoting perspiration, it seems often to give great relief; and further, it appears to have a beneficial influence on the pulmonary membrane, in rendering the secretion less viscid, and in facilitating expectoration. It is rarely, if ever, necessary to give it in large doses. From one-sixteenth to one-fourth of a grain I have usually found quite enough. At the same time, there can be no doubt that large doses—one or two grains—may be safely given in some cases, and continued even for days, without producing any of the so-called physiological effects of the drug —purging, vomiting &c.; and in such cases the antimony appears to do good; the symptoms of the pneumonia yield during its administration, and convalescence becomes established. But, whilst these full doses of tartar emetic are well borne by some patients, I doubt much whether it is ever desirable to exhibit them; for I believe we can get all the good effects which the drug is capable of affording by using it in smaller quantities. Of late I have treated the cases which I thought would be benefited by antimony with small doses of the remedy; but in some of the earlier cases referred to in the table, half-grain and grain doses were given.

"The propriety or impropriety of administering alcohol in pneumonia is one of the most important questions in connexion with the treatment of the disease. Here, again, we find that no fixed or definite rule can be laid down. Whether stimulants shall be given in large quantities or in small quantities, or be withholden altogether, must be decided by the general features of each case, and not simply by the fact that pneumonia exists. There can be no doubt that many cases of pneumonia may be conducted to a satisfactory issue without the administration of a single drop of alcoholic stimulant: further, that there are cases in which alcohol aggravates the symptoms, increases the distress, and retards convalescence. At the same time, there exist other cases which are as decidedly benefited by stimulants, and in which they should form the main therapeutic agent to be relied on. I may here remark, that in a large proportion of the cases which have come under my care, both in hospital and private practice, I have given, apparently with decided advantage, a larger or smaller quantity of some form of alcohol, either wine or brandy, in the earlier stages of the disease.

"With regard to calomel, I have seen it given, and have had opportunities of watching its effects; but in my own practice I think I have not given it more than three or four times. In the series of cases referred to in the table, it was given once only; and I have little doubt

that the progress of recovery was in no wise hastened by its administration.

"The exhibition of opium is, I think, very desirable in many cases. It often relieves the pain, allays the distressing cough which sometimes exists, and procures sleep. I have found that the pain in the side which so frequently accompanies pneumonia, and for which I used formerly to prescribe cupping or leeches, may be generally relieved by the administration of a dose of opium.

"There are some other remedies which are frequently given in inflammatory affections of the lungs, about which I would like to say a few words. Among these is ipecacuanha, which, I think, he advantageously administered in some cases of pneumonia. It sometimes nauseates, and prevents the patient from taking nourishment, and in this respect may become prejudicial. In such cases it ought to be omitted. It is not a remedy you must trust to in any severe case of the disease; but as an expectorant and diaphoretic it may occasionally be of some service.

"Carbonate of ammonia and chloric ether—spirits of chloroform of the *Pharmacopœia*—are substances which I often prescribe in combination in pneumonia. They are both stimulants, and, when given together, seem often to have a beneficial effect. When I think a case will not be improved by small doses of antimony, I generally prescribe ammonia and chloric ether, either with or without alcoholic stimulants.

"With regard to the administration of salines, such as citrate of potash or acetate of ammonia, I do not, as a rule, prescribe them either in this or in any other inflammatory affection. I think it doubtful whether the routine practice of constantly administering these substances in inflammations is a desirable one. At the same time there can be no doubt that they are sometimes agreeable to the patient, and afford relief to the distressing thirst which is at times present. Further, by supplying water and certain constituents to the blood, they may promote the action of the skin, as well as of other excreting organs, and thus have a curative effect. At the same time, I would remark, in referring to the action of the skin, that it by no means follows that the existence of the hot, burning, dry skin, so frequently met with in pneumonia, necessarily indicates the use of salines, or antimony, or any other of the so-called diaphoretic medicines. This condition is sometimes rapidly relieved by the sole administration of some form of alcohol; and, in fact, wine or brandy will occasionally be found the best diaphoretic we can use.

"The administration of nourishment forms an important element in the treatment of this, as of all other acute affections. In the early stages of a severe attack, there is but little desire for food; and there is a risk, if the mere feelings of the patient are alone consulted, that nourishment may be withholden too long. It is not desirable to starve a patient even during the acute stage of the disease; but small quantities of such nourishment as can be taken, excluding solid food, may be safely allowed. There is necessarily a great waste going on during the attack; and, unless this is to a certain extent supplied by food,

there will follow great prostration, which will seriously endanger the patient's safety when the acute symptoms have subsided. For the most part, in the early stages the quantity of food given may be safely left to the desire of the patient. As the case progresses and the appetite begins to improve, the diet should be more liberal; and you will find that, as soon as convalescence is established, solid food will be borne. In such cases as require a very early and free administration of alcohol, nourishment should be given liberally from the first. Beef-tea and milk are usually well borne; and if the former be properly made, a good deal of nourishment may be got in by means of it.

"Let me say a few words with regard to the practice of counter-irritation in the treatment of this disease. At the commencement of the attack, and in its early stages, turpentine fomentation, or mustard poultices followed by linseed-meal poultices, seem to act beneficially; but later in the disease, when consolidation has taken place, blisters are, I think, of more value. I believe they produce a really curative effect on the diseased blood-vessels; that, in fact, they cause contraction of the capillaries by reflex action of the vaso-motor nerves. They appear also to be useful in promoting absorption of the effused matters. Large linseed-meal poultices may be applied to the chest; but I do not think they are as valuable in this disease as in bronchitis, in which they often afford great relief."

Art. 44.—*Iodine Inhalation in the Treatment of Diphtheria.*

By J. Waring Curran, L.K.Q.C.P.I.

(*The Lancet*, Sept. 21 and Oct. 26, 1867.)

Mr. Curran relates several cases of diphtheria which he treated by local cauterization, with nitrate of silver where it was practicable, and the inhalation of iodine in hot vinegar and sage, prescribing large quantities of wine and ammonia, strong beef-tea, and ice, and counter-irritants over the chest. Some, he says, were truly formidable cases, manifesting symptoms, which writers on the subject tell us, once evinced are never recovered from; but all ultimately recovered, with ten others which subsequently occurred. The wives and children of the artillerymen stationed in the Martello towers in the neighbourhood in several instances became affected; some deaths happened, and the disease only yielded to treatment when the doctor in attendance, at Mr. Curran's suggestion, altered his plan, and had recourse to the iodine inhalation, which eventually turned out efficacious. To those to whose lot may unfortunately fall the treatment of diphtheria, Mr. Curran would earnestly recommend a fair and early trial of inhalation of iodine combined with sage and hot vinegar. The sage he looks upon as a useful adjunct, not relying solely on the hexameter,

"Cur moriatur homo, cui crescit salvia in horto?"

but believing it possesses many sedative virtues when employed as inhalation in throat affections.

The formula which Mr. Curran employs for inhalation purposes is the same as that formerly used by Sir Charles Scudamore in pulmonary phthisis—viz.: Iodine, iodide of potassium, of each four grains; alcohol, four drachms; water, four ounces. Of this, for each inhalation, commencing, Mr. Curran takes a drachm; adds to it a pint of vinegar, infused with a handful of dried garden sage, placed in a common inhaling jar, steadily increasing the quantity of iodine solution until he arrives at half an ounce each inhalation. The circumstances of the case, the age and strength of patient, and the severity or mildness of the attack, guide him with regard to the number of inhalations, and the time occupied by each. For an average case occurring in a healthy patient, he would say twelve inhalations at least per diem, with eight to twelve minutes (an interval allowed to rest) for each. The loss of valuable time in country practice occasionally, will not permit the delay of sending or waiting for an apparatus; accordingly, not unfrequently Mr. Curran has been compelled to make his inhalation in the following manner:—Having boiled the vinegar and sage, place it in a teapot with a long spout, and when the patient is prepared to inhale, add the iodine, cover the lid of the vessel with a cloth, keep up the temperature by a spirit-lamp placed underneath, and holding the vessel by the handle, allow the patient to inhale through the spout. Laryngeal irritation is in a great measure prevented by the small quantity at first used, through the patient becoming gradually accustomed to it.

Art. 45.—*Treatment of Hæmoptysis with Inhalations of Liquor Ferri Sesquichloridi.*

By Dr. P. Q. Brondgeest.

(*Nederlandsch Archief voor Genees-en Naturkunde.*)

The local treatment of morbid affections of the air passages, by the inhalation of fluids in the state of vapour, has latterly been very extensively adopted. In no department can we, however, point to such excellent results as in the treatment of hæmorrhage of the respiratory passages by means of styptic inhalations. The most important observations on this subject are undoubtedly those of Fieber, both on account of the fulness of detail with which they are communicated, and of the success with which the treatment was crowned. We fully endorse what Fieber says as to the value of this method: "If the mode of treatment by inhalation by means of pulverizers had," he says, "no other merit than that of rendering possible the direct application of hæmostatics to the bleeding points or their immediate vicinity, this would suffice to insure it an honourable place in therapeutics. Not only is one of the most dangerous symptoms often directly removed by the inhalation of styptics, but the dictates of humanity to free the patient from an affection which renders him most uneasy, and fearfully rouses phthisical patients in particular from the consoling illusion of

improvement which nature lends them to lighten their sickness, are most rapidly and effectually fulfilled."

"Fieber's observations led me to form the resolution to adopt this mode of treatment when opportunity should present itself."

Dr. B. relates three cases treated by him with inhalations of the liquor ferri sesquichloridi. For pulverizing the fluid, Bergson's well-known apparatus was employed.

These cases, he says, "prove that very obstinate bleeding from the air passages may be arrested by the inhalation of a solution of chloride of iron. They, moreover, show that the inhalation in itself does not give rise to any temporary aggravation of the symptoms, and that if some precautionary measures be taken (to have the solution not too concentrated, and the distance of the patient from the inhaling aparatus not too short), neither is the cough excited by it. I believe that where medical assistance is called to a case of dangerous hæmorrhage from the air passages, this mode of treatment should be immediately employed, and that every physician ought to have the proper apparatus at hand, by means of which he can control such a dangerous symptom, and, by so doing, probably save or prolong many a life.

Art. 46.—*On the Nature and the Mode of Propagation of Phthisis.*

By William Budd, M.D., Consulting Physician to the Bristol Royal Infirmary.

(*The Lancet*, October 12, 1867.)

The subjoined paper, Dr. Paget says, in a note to the editor of the *Lancet*, was received by him last December, in a sealed packet, from Dr. William Budd, of Clifton, with a request that he would take charge of it until he should direct him to break the seal. At Dr. Budd's desire Dr. Paget opened the packet a few days ago, and he now sends the contents, requesting the favour of their early publication in the *Lancet*:—

"The following are the principal conclusions to which I have been led regarding Phthisis or Tubercle:—

1st. That tubercle is a true zymotic disease, of specific nature, in the same sense as typhoid fever, scarlet fever, typhus, syphilis, &c. &c. are.

2nd. That, like these diseases, tubercle never originates spontaneously, but is perpetuated solely by the law of continuous succession.

3rd. That the tuberculous matter itself is (or includes) the specific morbific matter of the disease, and constitutes the material by which phthisis is propagated from one person to another, and disseminated through society.

4th. That the deposits of this matter are, therefore, of the nature of an eruption, and bear the same relation to the disease, phthisis, as

the "yellow matter" of typhoid fever, for instance, bears to typhoid fever.

5th. That by the destruction of this matter on its issue from the body, by means of proper chemicals or otherwise—seconded by good sanitary conditions—there is reason to hope that we may eventually, and possibly at no very distant time, rid ourselves entirely of this fatal scourge.

The evidence on which these conclusions are founded is drawn from the following principal sources :—

(*a.*) Considerations based on the pathology of phthisis, as showing it to consist in the evolution and multiplication within the organism of a specific morbid matter, with a universal tendency to elimination and casting forth of the same, after the type of zymotic diseases generally.

(*b.*) Actual instances in which there was evidence to show that phthisis was communicated from one person to another.

(*c.*) The geographical distribution of phthisis in past and present times, and especially its great fatality now in countries which when first discovered by Europeans were known to be entirely free from it.

(*d.*) Its much greater prevalence in low levels and among crowded communities, and its entire absence, unless by casual importation, at very high levels—conditions which are well known to rule, in the same directions, the spread of zymotic diseases generally, and especially of that group in which, as in phthisis, the morbific matter is cast off in a liquid form.

(*e.*) Its very high rate of prevalence in convents, harems, barracks, penitentiaries, &c.—that is to say, under the very social conditions which are known most to favour the propagation of diseases of the zymotic group.

Among the data relating to geographical distribution the following striking facts may be here mentioned :—

1st. When the South Sea Islands were first discovered phthisis did not exist there. Since the aborigines have come into intimate contact with Europeans the disease has not only made its appearance among them, but has become so widespread as to threaten their extermination.

The contrast between original entire immunity and present extreme fatality is very striking, and can only be rationally explained by the importation of a new and specific morbific germ.

Try every other supposition, and the facts are inexplicable; make this one supposition, and they are at once explained.

2nd. The late Dr. Rush, of Philadelphia, who made very accurate inquiries to determine the point, satisfied himself that when America was first discovered, phthisis was unknown among the native American Indians. Now it is very fatal to them.

The very significant contrast here exhibited between the past and present history of these two races, in respect of phthisis, is exhibited at once, and at the present time, among the negro race in Africa, in different parts of the area of that great continent.

It is well known that negroes are peculiarly liable to phthisis.

Now, everywhere along the African seaboard, where the blacks have come into constant and intimate relations with the whites, phthisis causes a large mortality among them. In the interior, where intercourse with

the whites has been limited to casual contact with a few great travellers or other adventurous visitors, there is reason to believe that phthisis does not exist. Dr. Livingstone and other African travellers have given me the most positive assurances on this point.

The idea that phthisis is a self-propagated zymotic disease, and that all the leading phenomena of its distribution may be explained by supposing that it is disseminated through society by specific germs contained in the tuberculous matter cast off by persons already suffering from the disease, first came into my mind unbidden, so to speak, while I was walking on the Observatory Hill at Clifton, in the second week of August, 1856. The close analogy in many quite fundamental points between this disease and typhoid fever had often impressed itself on me with very great force while I was engaged in the study of the latter, and in the preparation of the papers which I have published on it. I now saw with a clearness which had never occurred to me before, that, with the exception of the qualifications necessary for their application to a chronic disease—for the most part of slow evolution and indefinite duration—the leading conclusions to which I had been led respecting the propagation of the fever, might be applied with the same strictness to phthisis also.

This idea had no sooner taken possession of my mind than considerations of great force and in overwhelming number crowded upon me in illustration of it.

In the course of the same evening I drew up some notes on the subject, and before the end of the month my views upon it had taken, in outline, the exact shape which they now have. The long interval which has occurred between the summer of 1856 and the present date has been occupied in collecting data bearing on the various questions raised by this new theory—in accumulating evidence of various kinds, and in examining and carefully weighing difficulties. During the whole of this long time the subject has scarcely ever been absent from my mind. The result has been only to confirm me more and more in the truth of my first conclusions. I earnestly hope that they will not be lightly rejected. At any rate, I can say that they have not been brought forward in haste or without due deliberation. I have, in fact, considerably exceeded the ten years which, with a fine sense of what is due to such an enterprise, the Roman poet prescribed as the time to be given to every composition intended by the writer to endure.

Many causes have helped to prevent me from giving my views on this subject sooner to the world. Chief among them I may name want of time to put them into that scientific form and clear, logical order under which alone an innovation so daring has any chance of being entertained, much more of being accepted, by the profession. This task, however, I hope to complete in the course of a few months. Meanwhile, I have thought it well to place this memorandum, by way of record, in the hands of a friend, to be made public at any moment should occasion seem to require it."

Dr. Richard Payne Cotton, F.R.C.P., Senior Physician to the Hospital for Consumption, Brompton, says, in commenting upon the above paper in the *Lancet* of November 2nd:—If such views be correct, they will

completely revolutionize both the medical and social treatment of consumption; they will make the poor consumptive sufferer a being as much to be dreaded as the leper of old; and they will at once crush every hope of our lessening the ravages of this terrible scourge, by the manifest impossibility of our ever being able to "stamp out" so universally prevalent a poison. If Dr. Budd's views be incorrect, the interests of both the consumptive and the healthy require that they should be proved to be so.

Continued and very anxious thought upon this subject, based, too, upon an unusual amount of personal observation, has long ago brought Dr. Cotton to a conclusion directly opposed to that of Dr. William Budd. The more he sees of consumption the more is he convinced that its lamentable prevalence is to be ascribed to causes very different from that which Dr. Budd suggests. Dr. Cotton has never met with a case of true pulmonary consumption, however apparently due to contagious influence,—and that such cases often present themselves he readily admits,—which could not be more easily accounted for upon generally recognised causes than upon specific and contagious influences.

Following the example of Dr. William Budd, Dr. Cotton contents himself with briefly stating his own conclusions, reserving for some future communication the grounds upon which such conclusions have been formed.

"1st. I believe phthisis to be a purely constitutional disease, which may be either inherited or acquired, but which is incapable of being communicated by one person to another *in the ordinary sense of a contagious disease.**

"2nd. I regard tubercle as the product of such constitutional disease, just as lithate of soda is of gout, and sugar of diabetes.

"3rd. I consider that a person may be really consumptive, or, in other words, may have this constitutional disease, whilst the tuberculous elements are still in the blood—that is to say, before they are deposited as tubercle in the lung or other tissues.

"4th. Although I think it very possible that tuberculous matter, like many other diseased products, may be introduced into the system by artificial inoculation, producing its like, or something more or less similar to it, I do not believe that tubercle can exist naturally in such a state as to be, as Dr. Budd expresses it, 'disseminated through society' *by the ordinary principle of contagion.*

"5th. I think it probable, although at present not perhaps quite demonstrable, that there are varieties of consumption, both in degree and kind; but I am unacquainted with any such variety forming an exception to the general principles which I have stated above."

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* It is not impossible that, under certain circumstances, into which I cannot now enter, but which do not affect the question nor give any support to Dr. Budd's views, this constitutional condition may be conveyed from husband to wife, and, perhaps, but with less probability, *vice versâ.*

Art. 47.—*Treatment of Phthisis: Hospital Notes.*

By E. Symes Thompson, M.D., Assistant Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

(*British Medical Journal*, May 25, 1867.)

Dr. Thompson gives the following brief notes, taken in the out-patient room at the Brompton Hospital, in illustration of the remedial value of iron:—

Case of Tolerated Cavity in both Lungs.

Case 1.—H. S., aged twenty-seven, groom, when first seen in December, 1863, had suffered from cough four years, with purulent expectoration. He had hæmoptysis, night-sweats, and loss of flesh. The respiration was bronchial, with hurried crepitation; gurgling and pectoriloquy were heard under both clavicles, but more extensively on the right than on the left side.

This patient remained almost constantly under treatment till July, 1866, requiring frequently remedies directed to check gastric irritability—*e.g.*, bismuth, hydrocyanic acid, ammonia in effervescence, &c.; but taking continuously cod-liver oil and iron.

The patient is now able to work; but applied on February 1st, 1867, with a bronchial attack affecting the whole of the left lung. The physical signs are now, cavernous respiration on the right side, and pectoriloquy above the clavicle and above the scapula; on the left side, flattening, very marked dulness with cracked-pot sound, amphoric resonance and pectoriloquy over the upper third, and sibilant and crepitant rhonchi to the base.

This is a fair example of the ordinary form of tolerated cavity; but it is not usual to find a man capable of much daily work when *both* lungs are thus affected.

Tolerated Cavity.

Case 2.—R. P., aged twenty-three, when first seen in May, 1863, gave this history. His mother's family was phthisical. His illness commenced three years ago, after ague, with slight cough and scanty expectoration, pain after food, and sickness on coughing. On the right side, respiration was puerile throughout; at the left apex were dulness, cracked-pot sound, and moist gurgling rhonchus.

In May, 1866, slight increase of weight occurred under the use of cod-liver oil with iron and chlorate of potash, and occasional small blisters beneath the collar-bone. The expectoration and night-sweating ceased. The appetite was good; and the physical signs noted were, in the left subclavian region, harsh breathing without moist sound, and tubular breathing with large hurried crackle above the clavicle. The cough increased during the winter. No alteration of weight has, however, occurred; and the progress made in the summer of 1866 seems continuous. Some falling in on the side and contraction of the excavated lung has occurred; but there is still evidence of a considerable vomica

in the upper part of the left lung, and it seems improbable that it will ever be entirely obliterated.

It is usual, in cases of tolerated cavity, to find (as in Case 3) the excavation limited to one part of the lung, the remainder of which is free, or almost free, from disease. In the cases just detailed, this could not be said to be the case, however; for the physical signs indicated an altered state of pulmonary tissue in the lower as well as in the upper portion.

Tolerated Cavity, with profuse Hæmoptysis.

Case 3.—C. H., aged forty-four, coachman, applied as an out-patient in August, 1864. His illness began with cough following catarrh, seven months before. Hæmoptysis was profuse—two quarts in the previous night. The cough was violent. His appearance was blanched; the extremities were cold and blue; wasting was considerable. The right side of the chest was dull on percussion, with loud cracked-pot sound, pectoriloquy, and cavernous gurgling.

Cod-liver oil and iron had been taken continuously for two and a half years, with an occasional saline aperient when the hæmoptysis was persistent, and oxide of turpentine lotion to check perspiration. During three years the patient believes that he has coughed up, altogether, at least two pailfuls of blood. Not unfrequently he has nearly filled an ordinary washhand-basin during the night.

February, 1867. For the last six months there has been no return of blood-spitting. The patient has a natural colour, is up to a day's work, and anxious for a situation. The physical signs of the chest are now, flattening beneath the right collar-bone, with diminished movement, amphoric breathing, and pectoriloquy. There is no gurgling or moist sound. Respiration is normal below the fourth rib and on the left side. The cavity appears to be quite dry. There is but little cough, and no expectoration. The patient is nearly of his natural weight.

Case 4.—The details of this case are more curious than the last, as showing how a patient may continue for years in apparent health with one lung disorganized.

M. M., of Ware, aged forty-six, an excise-officer, when aged sixteen had cough, loss of flesh, purulent expectoration, hæmoptysis, &c. He was told by an eminent physician that the right lung was diseased, and that he could not live six months. Ever since this time he had occasional cough, and "sharp bouts" of blood-spitting ("a chamber-pot, three pailfuls—two or three pints—in half an hour"), but has not lost much flesh in consequence. For several years he expectorated daily an ounce or two of thick drab-coloured phlegm. (The blood had a saltish taste, "like an old copper halfpenny.") In April, 1856, when under the care of the late Dr. Theophilus Thompson, he had extensive disease of the right lung; and in October, 1866, the physical signs of the chest were the following: there was dulness all over the right side; bronchial breathing below the scapula with large crepitation, cavernous cough, and click; gurgling at the base.

In December last, the sounds of the chest remained the same, but the cough, which, after sleeping in damp sheets, had become more

troublesome for a few weeks, was less frequent, and the expectoration no longer frothy. His weight was 11 stone 11 lbs.—the same for several years. Pulse 80. Respiration was hurried only on severe exertion. He can go through a hard day's work without fatigue.

Phthisis: Second Stage. Recovery.

Case 5.—D. D., aged twenty-four, draper, was first seen in February, 1865. For sixteen months he had had cough, with yellow expectoration and streaky hæmoptysis, and loss of weight (a stone during the last six months). His father and brother were consumptive.

His digestion was very feeble. The tongue was coated; appetite poor; pupils dilated; feet œdematous. Pulse 100 and upwards. The respiration on the right side was rough. On the left side there was dulness, with crackle; no vesicular murmur. Hurried crepitation was heard on coughing, with metallic gurgling above the scapula.

This patient was carefully dieted. Cod-liver oil was discontinued, as preventing digestion of other food. Nitro-muriatic acid, with chloric ether and a bitter, was given before meals, and an occasional aperient. Oxide of zinc was given for the sweating, and sweet oil with raspberry vinegar for the cough.

In August (six months later) he had an attack of sharp pain in the right axilla, with loud dry friction-sound beneath the nipple and beside the scapula and on the left side. Hurried crepitation was now to be heard beneath the collar-bone; here the percussion-note was dull, and the vesicular murmur absent. Warm linseed-poultices and spongiopiline, applied to the right chest, gave much relief. Iron was prescribed. In January, 1866, he had a sharp attack of hæmoptysis, which seemed to relieve the sense of weight and oppression in the chest, and the cough became less frequent. But after awhile it became very hard, loud, and tearing. His breath was short. The pupils were still dilated. He was easily exhausted. Pulse 100. Appetite poor. In February, 1866, the left side was dullish; wavy and prolonged expiratory murmur was heard above the scapula. In the subscapular region, there was bronchial breathing and cough; and crepitation on deep inspiration, with slight *râles* to the base. The chest was painted with croton-oil with benefit, and the cough was relieved with prussic acid linctus.

March. The cough was less hard; the expectoration more easy; the breath less short. Perspiration was checked by oxide of zinc. He wanted to insure his life, but was advised not to attempt it.

September. He had gained four pounds in weight, and looked hearty. Pulse 86. He coughed rarely. On the right side, respiration was puerile; the left was dullish all over. Bronchophony was heard above the scapula. The respiration in the axilla and beneath the scapula was harsh.

In November, he was examined for insurance by two eminent physicians, and passed with but a slightly increased invalid premium. The patient has since married, and retains fair health.

Phthisis: Second Stage: Improvement under permanent Blister.

Case 6.—J. B., aged forty-two, was first seen in August, 1866. He had always been weakly. His father and only brother were phthisical. He had had cough three years, dyspnœa on exertion, varied sputa,

occasional slight hæmoptysis, profuse night-sweats. He was a thin haggard-looking man, with flushed cheek and restless eye, and a weak compressible pulse. He was much emaciated. On the left side of the chest, the upper third was dull on percussion, with bronchial breathing, bronchophony, loudly conducted cardiac sounds, and crepitation.

The treatment consisted of cod-liver oil and perchloride of iron, with chloride ether and quassia. A blister was applied beneath the left clavicle, and dressed with savin ointment. Oxide of zinc pills were given at bedtime. The night perspiration soon yielded to the pills, which were then discontinued; but the other treatment has been uninterruptedly persevered in.

February, 1867. The patient is now strong and able to work; his complexion and appearance are natural and cheery; pulse steady, 84 in the minute. He coughs very rarely. He has gained much flesh; and the only abnormal sound of the chest now to be detected, is slight dulness on percussion beneath the left clavicle, with prolonged expiratory murmur.

In this case the good effect of the permanent blister, kept open for six months and not yet closed, has been most marked.

Case 7.—G. B., aged twenty-five, a watchmaker, first applied as an out-patient at the Brompton Hospital in 1860. His mother was phthisical. The patient had suffered for six months from cough, with expectoration and emaciation. The chest sounds noted were, on the left side, dulness and conducted cardiac sounds. The right side was normal.

In 1865 the left side was dull and flat, with hurried crackle and crepitation at the apex. On the right, there was puerile breathing. Cod-liver oil and iron were prescribed. He spent the winter of 1865-66 at Madeira. He amused himself with taking photographs; and, being a musician, did his best to entertain the other patients sent from the hospital, who sat moping for hours. He improved greatly at Madeira; but suffered from diarrhœa on the homeward voyage. He was very weak on landing, and the benefit gained was then less apparent than real. The chest-sounds are now, under the left clavicle, marked fluttering, depression, and diminished movement. Respiration is bronchial. The patient now works hard as a gunmaker.

Cases like this, however, are so common, that we must not attach too much importance to the influence of the Madeira climate. In these two concluding cases, for instance, the benefit has been as striking, though the state of the lung is less satisfactory.

Case 8.—E. S. aged thirty-one, widow, dressmaker, had had a cough for three years and night-sweats. In August, 1865, on the right side there were cavernous gurgling, crepitation, and prolonged expiration. On the left side expiration was harsh and prolonged. Cod-liver oil, quinine, and iron were prescribed; and gallic acid to check hæmoptysis. The patient lived near Paris. The physical signs are now, dulness on the right side, with cracked-pot sound; dry cavernous respiration over the upper half of the chest. The left side is normal. She is now able to work.

Case 9.—G. J., aged twenty-five, a barman, in September, 1865, had a

cough, profuse hæmoptysis, night-sweats, and emaciation. The right side was dull, with cracked-pot sound, humid crepitation, and rhonchus to the base. On the left side were rhonchi and sibilus. Cod-liver oil, iron, and zinc pills were prescribed.

February, 1867. The right side is flat and dull, and there are bronchial breathing and bronchophony. The patient has returned to his occupation.

Art. 48.—*The Treatment of Pulmonary Consumption.**

By J. Henry Bennet, M.D.

(*British Medical Journal*, August 17, 1867.)

Dr. Henry Bennet commenced by stating that the subject of phthisis is so vast in itself, in its pathological affinities and connexions, that it would require not one, but twenty meetings, to discuss it in all its bearings. He should, therefore, confine himself to the consideration of treatment, merely making a few preliminary remarks on the general pathology of pulmonary tubercle. Whatever the opinions entertained respecting the origin and nature of tubercle, it was now generally acknowledged that its deposit in the lungs and elsewhere was the result of defective nutrition, itself the result of a lowered state of vitality, hereditary or acquired. It is a sign of vital decay; the forerunner of eventual death, if unchecked; a mere mode of dying. Looking at the subject in a philosophical point of view, tuberculization was not a scourge or pestilence, but one of the means by which Providence purifies the human race, weeding it of effete, worn-out organizations, unfit to perpetuate it in conditions of health and vigour. Were not such laws in operation, the human race would, in a few generations, become one of dwarfs, pigmies, of misshapen diseased abortions. The attention of thinkers has been much directed to the struggle for life which pertains in wild nature. Effete, worn-out organizations are not allowed to exist. They either die for the want of power to procure the means of existence, or are exterminated by their natural enemies. But man has intellect; can provide for his own old age, and for the sickly existence of his sickly progeny. He has passions, desires shared by the weak as well as the strong, and thus society is full of effete organizations, which propagate the race as well as their stronger brethren. But here the laws of Providence come in to correct our errors. The strong in life, in youth and vitality, give the same principle to their progeny; but the weak, the sickly, the old, cannot give what they have not got. Their children are born with the seeds of disease and death in them, and die of tubercular meningitis, scrofula, and consumption. Thus is the integrity, the sanctity, of the human race preserved. If these views are correct, if the deposit of pulmonary tubercle is the result of lowered vitality, the treatment of the disease must be essentially sthenic. In the hereditary form,

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* Abstract of a Paper read at the thirty-fifth annual meeting of the British Medical Association, in Dublin, Aug. 6, 7, 8, and 9.

we have to endeavour to renovate, to prolong, a life naturally drawing to its close. In the acquired accidental form, we must, also, try to vitalize the economy, to restore the healthy play of disordered functions, and thus to arrest the fatal progress of the disease. To accomplish these ends, the application of the laws of healthy life, of hygiene, affords us infinitely more scope than mere medicinal agents. These laws must be rigorously applied. The patient must be removed from all unfavourable influences; must live in the country if possible, in the pure air night and day—a condition which can only be accomplished by allowing a current of air to pass through the room in which he or she lives. The functions of the skin must be steadily favoured by cold or tepid sponging daily and frictions in all conditions of disease. The food should be as nourishing and abundant as the stomach will bear. Life must be passed out of doors as much as possible, and that without fatigue. The disease being one of debility, there is but little strength left; and much exercise, often any active exercise, is prejudicial, disordering the digestive functions and impairing nutrition. To enable this hygienic treatment to be carried out, and to avoid the moist cold weather of our winters, so unfavourable to the inflammatory affections which accompany the deposit and softening of tubercular matter, if the means of the patients admit of it, they should be sent to a dry, cool, bracing, sunny climate, such as that of the sheltered north shore of the Mediterranean in the Gulf of Genoa, and not to warm, moist, relaxing climates like those to which consumptive patients were formerly sent under different doctrinal ideas. Although no medicinal substance can renovate, renew, exhausted vitality—although there is no panacea for such a disease—yet much may be done medicinally to restore healthy functional action, and to improve constitutional conditions. Thus, iron, phosphorus, acids, alkalies, bitters, etc., all find their application, but only as adjuvants to hygiene and climate. They are merely like manure given to plants. A shrub dying in a city square from foul air, smoke, defective drainage, is doctored in vain with guano, bone-dust, etc., while it remains in the site unfavourable to its vitality. Transferred to the country, in pure air and good soil, these same agents may much contribute to its recovery. The inflammatory accidents which accompany phthisis—bronchitis, pleurisy, pneumonia—are mere phenomena, and only require secondary attention, although important in themselves, and destined perhaps to be the eventual cause of death. But, if the diathesis continue, they continue, whatever is done. If the diathesis can be modified, changed, organic vitality renovated, they stop and get well of themselves. Under the combined influence of sthenic treatment, aided by climate, hygiene, and medicine, the author has seen many cases of arrest and cure, since he himself has been a consumptive observer, and now looks upon the disease in its early stages as much more manageable and curable than he formerly thought it and found it when actively engaged in large city practice.

Art. 49.—*On Hurtful Remedies in the Treatment of Pulmonary Phthisis.**

By M. Marchal (de Calvi).

(*The Lancet*, August 31.)

Under this heading M. Marchal included preparations of iron, of sulphur, of iodine (the worst of all), and even of bark. Iron, while it cured anæmia, excited hæmoptysis; sulphur and iodine acted in the same way, and brought on bronchial hæmorrhage. The sulphurous waters, such as the Eaux Bonnes, Enghien, &c, were very hurtful. The preparations of iodine, which were most useful in scrofulous cases, created much evil in phthisis. All *active* medicaments must be discarded. Hygienic measures only were to be employed. Change of air was the best of all; but to effect this it was necessary to know what places were the best—where pulmonary phthisis prevailed less. A good medical geography was a great desideratum.

M. Auzias-Turenne celebrated the virtues of that most humble plant of our kitchen gardens, garlic. He considered it most useful, not only as a remedy, but as a preservative. Three pods of garlic, taken morning, noon, and night, would do wonders, while the offensive odour would be effectually concealed by chewing cachou.

Professor O'Leary (of Ireland) said that he had seen the most beneficial effects follow the use of inhalations of iodine.

Professor Markovitz (of Bucharest) said pulmonic phthisis may be divided into three distinct forms:—1. The hæmorrhagic form. 2. The acute form (galloping consumption). 3. The chronic, or torpid form. Treatment would differ according to each particular form. Active medicines are not suitable in the first two, but exercise a favourable influence in the third.

M. Lombard (of Geneva) preferred hygienic to therapeutical measures in the treatment of phthisis. He advocated hygiene, a good diet, good food, and a favourable climate. The altitude of different climes, through a diminution of the proportion of oxygen, exercised a most favourable influence. The fact had been proved in Mexico, in South America, and in Switzerland. He would, therefore, strongly recommend a respiratory diet, or, in other words, a prolonged habitation on elevated lands.

Professor Halla (of Prague) spoke likewise against active medicaments; they had the evil effect of disturbing the digestive functions.

Art. 50.—*The Therapeutics of Pulmonary Consumption.*

By Dr. Hérard.

(*British Medical Journal*, August 10, 1867.)

In a clinical lecture delivered at the Lariboisière on Pulmonary Phthisis, Dr. Hérard said: I do not intend to pass in review the

* Abstract of a Paper read at the International Medical Congress, held in Paris, August, 1867.

numberless medicaments which have been vaunted as possessing the power of curing tuberculization of the lung. It is certain that we do not possess any specific; but I am convinced that a well-regulated treatment, growing naturally from the ideas I propound on the nature and pathogenesis of pulmonary lesions, may give the patients considerable relief, prolong their days indefinitely, and even produce a cure.

The principal indications afforded by the therapeutics of pulmonary phthisis may be be reduced to three.

1. The prevention of the development of miliary granulation. For this end our means are very limited. As I have already remarked, granulations proceed from a general condition, the very essence of which is unknown to us. We should, however, study two kinds of means—the curative, and the preventive. Amongst the latter, hygiene plays a principal part—both alimentary and respiratory hygiene. It has long been proved that a good alimentary regimen should be the entire treatment adopted in pulmonary phthisis. I quite concur in its great importance. A patient should have broiled or roasted meat, or raw meat in a palatable form, with a tonic draught of which alcohol forms the base, etc. But we must not exaggerate the value of these agents, which, according to some writers, have produced veritable miracles. Sometimes this plan succeeds in re-establishing the patients for a time, but they gradually become tired of the regimen; and it becomes so intolerable, that it is perforce relinquished, only a fleeting amelioration having been obtained. Some other aliments produce good results: I mean milk and cod-liver oil, though the last is often classed as a medicine. M. Bouchardat has theoretically examined the fatty agents used in the treatment of phthisis. Clinical experience has led me to endorse his opinions. Milk and cod-liver oil probably act by the large quantity of fat which they introduce into the animal economy; the oil also containing a certain quantity of iodine, which may have a salutary influence. I prefer the pale oil: the patient takes it more willingly, and can longer continue the use of it. In order to cover the disagreeable flavour of the oil, I frequently give it with cinchona wine. There are many other means familiar to you of producing the same result. The oil should be given before meals. As a rule, this is the best time to give all medicines—the fluids which flow into the stomach during the process of digestion rendering absorption more easy. The dose should not be too large; two to four spoonfuls daily are sufficient; but the administration must be long continued. It should be discontinued during great heat, as the dislike of invalids to fats then frequently becomes invincible.

In conjunction with alimentary hygiene, we find respiratory hygiene, which is composed of all the conditions constituting climate. The reason that this therapeutic agent does not obtain all the favour it merits is, that it is not used with the care and precaution needful to obtain good results. It is objected to those who recommend to consumptive patients removal to a warm climate, that phthisis is as common in warm as in cold countries. The reason of this fact is, that climate, while exercising a primary influence, is not the only cause of pulmonary phthisis. In warm countries, many persons are living in deplorable hygienic conditions. Besides, is there not a great difference between

living constantly in a warm climate, or going during the winter to Mentone, Cannes, Nice, etc., where the heat in the summer is debilitating? The choice of abode is also of great importance; it is not enough to say to the patient, as is frequently done, "Go to the South." For instance, Marseilles is a very bad dwelling-place. The mistral there causes variations of temperature most pernicious to phthisical patients. It is also necessary to indicate that, in the most favoured localities, precautions must be taken. As a rule, invalids should go out only in the middle of the day; and, as it is desirable to know the climate of the place in which one is residing, it is advisable to refer the patient to the local medical man. The value of sea-air has been much discussed. Laennec spoke highly of its beneficial influence. M. Rochard, on the contrary, believes that sea-air and sea-voyages are very injurious to phthisical persons. Doubtless, for sailors, whose labour is very hard, who are exposed to all the vicissitudes of the weather, and who are placed in the most deplorable hygienic conditions, sea-voyages are injurious; but, if we prescribe a sea-voyage in a mild and sheltered latitude, the invalid being also well placed in a hygienic point of view, a sea-voyage may produce very good results.

Some medicaments may directly attack the diathesis; but they all act as tonics or stimulants. I repeat, we possess no specific. Sulphur, for example, may be very useful, either in powder or in the form of sulphurous water; but it must be administered with the greatest care. In cases where the symptoms are somewhat acute, it might produce congestion and hæmoptysis. Arsenic increases flesh, and seems to lessen congestion of the lungs. Iodine, which has been misused, is nevertheless very useful, taken internally in small quantities, mixed with the food, or in the vegetables, which contain it in varying proportion. M. Piorry highly praises iodine in inhalations; but this agent must only be used with the greatest precautions, for fear of producing too great excitement. Phosphorus has been by some physicians very erroneously considered as a specific. However, the hypophosphites of soda and lime, in doses of one to two *grammes*, may sometimes produce a favourable action. Sea-salt has been much vaunted by M. A. Latour. If given to goats, mixed with their usual food, it produces milk easy of digestion, and affording an excellent food for consumptive persons. This milk must be taken in the following manner. The patient drinks about a *litre* of it in the twenty-four hours by mouthfuls, and the appetite for meals is not at all impaired.

Second indication. To combat the congestions and inflammations of the pulmonary parenchyma. We possess for this purpose really powerful agents. I rarely employ bleeding; and many physicians rebel against the ideas of Broussais, and never resort to it. I think they have gone too far. It is certain that, at the commencement of phthisis in plethoric subjects, when the symptoms are very acute, one may obtain good effects from the application of leeches or cupping, with scarification. The utility of tartar emetic has been recognised since the days of antiquity. With Laennec's views on the tuberculization of the lung, it would be impossible to explain to oneself the action of this medicament. But with the views which I maintain before you, and which consist in recognising that tuberculosis is accompanied by true pneumonia, the

action of antimonials is easily explained. The medicament justly and highly esteemed by MM. Moneret and Fonssagrives ought to be employed in soothing doses. Digitalis has the same action; it is most useful in cases where phthisis is complicated with palpitation or hypertrophy of the heart, which encourages hæmoptysis.

The atmosphere of cowhouses, so strongly recommended by some physicians, appears to me to operate by maintaining a mild and moist temperature about the patient. In the same way, inhalations of watery vapours have been found useful. Trousseau had a room in his ward specially devoted to this purpose. His cases immediately experienced great relief, less heat in the chest, and a diminution of the cough. I also attach great importance to the use of cutaneous counterirritants, tincture of iodine, blisters, etc. I am persuaded that the cautery is very useful; it is a therapeutic agent from which I obtained excellent results. When operating on females, who dislike the scars about the clavicles, I place them in the axilla. I cannot admit that there is any antagonism between anal affections, fistulas, etc., and pulmonary phthisis, as Aran asserted. On the contrary, I think it advisable to combat them by every means in our power. Fistula of the anus is frequently incurable; but, if there is a probability of a cure, the operation should be performed. It is clear that the patient is thus relieved from one cause of exhaustion, painful suffering, and indigestion.

Third indication. To combat local or general symptoms which become predominant, painful, or distressing to the patient. It is useless to dilate on this symptomatic treatment, which offers no particularly salient points.

To conclude: What is to be thought of the curability of pulmonary consumption? With the power of using many medicines, should the physician abandon the unhappy patient, under the pretext that there is nothing to be done? On the contrary, much may be done. Frequently the disease commences in one lung; and the previous employment of the means I have indicated to you may prevent its spreading to and invading the other organ. The lesions, tubercles, pneumonia (caseous), may pass into the cretaceous state. This is one method of cure; but even if the cavities are formed, they may retract themselves, become filled with chalky or gelatinous matter, or clothe themselves with a false membrane, and so result in apparently complete cure. Finally, where the extent and gravity of the lesions leave the physician no hope, he must endeavour to afford the patient mental consolation. How many consumptive patients remain in ignorance of their sad condition to the last moment of their life, from their physician's assurance that they are only suffering from inflammation of the lungs.

Art. 51.—*Ossification of the Lung in Phthisis.*

By M. Le Diberder.

(*L'Union Médicale*, July 11, 1867.)

Among the numerous lesions resulting from phthisis pulmonalis, there is one that has been scarcely mentioned by authors on account of

its rare occurrence; this is ossification of the parenchyma of the lung around a cavity. These ossific productions modify the progress of the disease and some of its physical signs, as is exemplified in the following case that was under the care of M. Guibout in the Hôpital Saint Louis.

"Joseph D—, aged fifty-six years, was admitted on January 15th, 1867. He had had a cough for several years, and presented well-marked signs of tubercle. He was much emaciated, and had lost strength so rapidly during the previous fifteen days, that he was compelled to enter the hospital.

On admission, he presented the following symptoms: skin cold and dry; pulse 100. Intense dyspnœa; no distinctly localised pain. There was considerable dulness on percussion on the right side in front, and a want of elasticity in the thoracic wall, reaching from the summit to the middle of the chest. Behind there was dulness over a corresponding space. Below the sound was duller than that on the opposite side. On the left side the resonance seemed to be normal everywhere.

Auscultation revealed nothing on the left side, save some sibilant and sub-crepitant râles. On the right there extended over the whole extent a mixture of very distinct crepitant râles, and great moist sub-crepitant râles. The crepitant râles were particularly heard above at the part corresponding to the complete dulness. They were the same character both in front and behind. In addition, under the right clavicle, and as far as the axilla on the same side, a well-marked souffle could be heard, with some gurgling. At the same point, there was, when the patient spoke, very intense bronchophony. The expectoration was scanty, and presented a slight colouration analogous to that known as the colour of apricot marmalade. Cough was difficult and not frequent.

From this collection of symptoms, M. Guibout concluded that a cavity existed at the summit of the right lung, complicated with pneumonia, having its seat in the upper lobe of the right lung.

January 16.—The character of the expectoration was changed; it no longer contained blood, but was nummular and purulent. It was also more abundant. On auscultation the same râles were heard, with the exception of a slight diminution of the crepitant râles.

Towards the evening the dyspnœa became more considerable; the pulse was yet smaller, 120. The patient was slightly delirious, and refused nourishment. Death took place during the night.

Autopsy.—Both lungs were adherent in front to the thoracic wall, particularly that of the right side, which was involved along the whole of its extent. These adhesions were so firm that it was quite impossible to take away the right lung entire, and its tissue was torn during its removal. At its front part, about the level of the second and third ribs, existed a large cavity, which was contiguous to the thoracic wall. This cavity was as large as a nut, and filled with purulent matter. Around this, in the tissue of the lung, were found small hard bodies scattered over a thickness of several centimetres around the walls of the excavation. These bodies were disposed in a very variable manner. They formed several knots, or small ramified tubes; some were isolated, and others were united together so as to form masses as large as a nut. These could be recognised, on the most superficial examination, as fragments of osseous tissue. This tissue was very porous, and some of the

fragments, deprived of their coverings of soft parts, were remarkably light. According to M. Ranvier, this ossification had proceeded from a chronic interstitial pneumonia, and the osseous tissue had been developed at the expense of the embryonic cells formed under the influence of irritation. M. Ranvier was able to follow, in this particular case, all the phases of this development, and to assure himself that it took place by a process altogether similar to the physiological development of bone in fibrous tissue.

This mode of formation, moreover, perfectly explains the varied and capricious forms of the small osseous fragments, which present, in some instances, uneven and embossed knots, and in others perfect ramified tubes, corresponding to its action in the parenchyma, between the tubes which traverse this, or around one of these tubes to which it had formed an envelope, leaving more or less of its calibre free. In fact, of these ossific tubes, some were perfectly cylindrical, others more or less flattened. The right lung was studded with tubercles from its apex to its base. These tubercles were large, and contained in their interior abundant black pigment. Ramollissement had commenced at the summit, and small cavities in progress of formation existed there. There was general and distinctly marked pulmonary congestion, but in no part was there the least trace of hepatisation.

Remarks.—In addition to the singular fact of the formation of osseous tissue in the midst of the pulmonary parenchyma, this case presents interest when viewed in relation to the symptoms and course of tuberculisation.

The pulmonary tissue is always indurated around the cavities, for there is constantly found that hypertrophy of the connective tissue which, at the present day, is designated under the name of interstitial pneumonia; but this is of varying extent, and it is rare to meet with ossification. From these differences in the physical condition of the walls of the cavities there result differences in the stethoscopic signs furnished by them. One may also be very readily deceived about the size of a pulmonary excavation. Thus in the case just reported the cavernous souffle was very intense and reached over a large extent; although it corresponded to an inconsiderable cavity, it was perfectly transmitted to a distance by the ossified lung.

The presence of these osseous concretions evidently denotes an old lesion, for such a process could not be effected in a short space of time; it marks also an arrest of the disease, it is an obstacle to the increase of the cavern; and M. Le Diberder believes that it is a mode of cure by the lesion in all those instances in which the cavern cicatrises without obliteration of its cavity.

On the other hand, although this is a mode of cure of the lesion, the malady still exists, and after having undergone an arrest, it will return sooner or later, and finally carry off the patient. This is what occurred in the subject of the case reported by M. Le Diberder: the patient succumbed to a rapid tuberculisation which had attacked the whole lung.

With regard to diagnosis, this patient presented some difficult points. The crepitant râles were very abundant, and the expectoration was characteristic; there was not, however, any lobular pneumonia; thus pneumonia should not be diagnosed without reserve, when tuberculous

antecedents are found; and, on the other hand, the crepitant râles are mixed with very abundant sub-crepitant râles.

Finally, if the caverns themselves are susceptible of cure, as has been sufficiently demonstrated, the physician ought to make every effort to obtain this happy result whenever he meets with one of these lesions. M. Guibout treats cases of this kind with blisters and the actual cautery applied locally, and by an energetic internal treatment,—cod-liver oil; in certain cases, arseniate of soda, in doses of three, four, or five milligrammes in the day; tonics of all kinds, and particularly quinine. Patients affected with undoubted cavities in the lungs, have improved rapidly in their general health, whilst the local lesions gradually diminished, and were soon revealed only by physical signs that could not be distinguished without difficulty.

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 52.—*On the Use of Nitrite of Amyl in Angina Pectoris.*

By T. LAUDER BRUNTON, B.Sc., M.B., Senior President of the Royal Medical Society, and Resident Physician to the Clinical Wards of the Royal Infirmary, Edinburgh.

(*The Lancet*, July 27, 1867.)

This remarkable substance was discovered by Balard; and further investigated by Guthrie,* who noticed its property of causing flushing of the face, throbbing of the carotids, and acceleration of the heart's action, and proposed it as a resuscitative in drowning, suffocation, and protracted fainting.

Little attention, however, was paid to it for some years, till it was again taken up by Dr. B. W. Richardson, who found that it caused paralysis of the nerves from the periphery inwards, diminished the contractility of muscles, and caused dilatation of the capillaries, as seen in the web of the frog's foot.

Dr. Arthur Gamgee, in an unpublished series of experiments both with the sphygmograph and hæmadynamometer, has found that it greatly lessens the arterial tension both in animals and man; and it was these experiments—some of which Dr. Brunton was fortunate enough to witness—which led him to try it in angina pectoris.

"During the past winter," Dr. Brunton says, "there has been in the clinical wards one case in which the anginal pain was very severe, lasted from an hour to an hour and a half, and recurred every night, generally between two and four a.m.; besides several others in whom the affection, though present, was less frequent and less severe. Digitalis, aconite, and lobelia inflata were given in the intervals, without producing any benefit; and brandy and other diffusible stimulants during the fit produced little or no relief. When chloroform was given so as to produce partial stupefaction, it relieved the pain for the time; but

* Journal of the Chemical Society, 1859.

whenever the senses again became clear, the pain was as bad as before. Small bleedings of three or four ounces, whether by cupping or venesection, were, however, always beneficial; the pain being completely absent for one night after the operation, but generally returning on the second. As I believed the relief produced by the bleeding to be due to the diminution it occasioned in the arterial tension, it occurred to me that a substance which possesses the power of lessening it in such an eminent degree as nitrite of amyl would probably produce the same effect, and might be repeated as often as necessary without detriment to the patient's health. On application to my friend Dr. Gamgee, he kindly furnished me with a supply of pure nitrite which he himself had made; and on proceeding to try it in the wards, with the sanction of the visiting physician, Dr. J. Hughes Bennett, my hopes were completely fulfilled. On pouring from five to ten drops of the nitrite on a cloth and giving it to the patient to inhale, the physiological action took place in from thirty to sixty seconds; and simultaneously with the flushing of the face the pain completely disappeared, and generally did not return till its wonted time next night. Occasionally it began to return about five minutes after its first disappearance; but on giving a few drops more it again disappeared, and did not return. On a few occasions I have found that while the pain disappeared from every other part of the chest, it remained persistent at a spot about two inches to the inside of the right nipple, and the action of the remedy had to be kept up for several minutes before this completely subsided. In almost all the other cases in which I have given it, as well as in those in which it has been tried by my friends, the pain has at once completely disappeared. In cases of aneurism, where the pain was constant, inhalation of the nitrite gave no relief, but where it was spasmodic or subject to occasional exacerbations, it either completely removed or greatly relieved it. It may be as well to note that in those cases in which it failed, small bleedings were likewise useless.

From observations during the attack, and from an examination of numerous sphygmographic tracings taken while the patients were free from pain, while it was coming on, at its height, passing off under the influence of amyl, and again completely gone, I find that when the attack comes on gradually the pulse becomes smaller, and the arterial tension greater as the pain increases in severity. During the attack the breathing is quick, the pulse small and rapid, and the arterial tension high, owing, I believe, to contraction of the systemic capillaries. As the nitrite is inhaled the pulse becomes slower and fuller, the tension diminished, and the breathing less hurried. On those occasions when the pain returned after an interval of a few minutes, the pulse, though showing small tension, remained small in volume, and not till the volume as well as tension of the pulse became normal, did I feel sure that the pain would not return.

As patients who suffer from angina are apt to become plethoric, and greater relaxation of the vessels is then required before the tension is sufficiently lowered, I think it is advisable to take away a few ounces of blood every few weeks. When the remedy is used for a long time, the dose requires to be increased before the effect is produced. A less quantity is sufficient when it is used with a cone of blotting-paper, as

recommended by Dr. Richardson, than when it is poured on a large cloth. From its power of paralyzing both nerves and muscles, Dr. Richardson thinks it may prove useful in tetanus; and I believe that, by relaxing the spasm of the bronchial tubes, it might be very beneficial in spasmodic asthma. I have tried it in a case of epilepsy, but the duration of the fit seemed little affected by it. It produces relief in some kinds of headache, and in one of neuralgia of the scalp it relieved the severe shooting pain, though an aching feeling still remained."

Art. 53.—*Treatment of Diseases of the Heart.*

By S. O. Habershon, M.D., F.R.C.P., Physician to Guy's Hospital.

(*Gray's Hospital Reports*, 1867.)

Dr. S. O. Habershon, in an interesting paper in the late volume of *Guy's Hospital Reports*, lays down *seven* principles of treatment in all cases of heart disease.

The first is, as far as possible, to *lessen its work;* and this may, to some extent, be effected by mechanical rest, by a recumbent position, and by the avoidance of sudden changes of temperature.

The *second* is to *insure regularity of action*, by avoiding mental excitement, by guarding against indigestion, and by never allowing constipation to continue.

The *third* is to *lessen distension*, especially of the right side of the heart, by purgatives, diuretics, and by mechanically diminishing the quantity of fluid in circulation.

The *fourth* is the prevention of syncope. With this view, sudden muscular movements must be avoided; stimulants may be required, as ammonia, brandy, etc.; and sedatives must be withheld or cautiously administered.

The *fifth* is to strengthen the muscular fibres of the heart, by suitable nourishment, a bracing air, if other conditions allow; chalybeate medicines, and if the patient be exhausted by want of sleep, this symptom must, if possible, be relieved.

The *sixth* is to prevent fibrillation of the blood. For this purpose carbonate of ammonia will often be useful; other alkalies, as potash, soda, and their salts may be beneficial, but, if long continued in considerable doses, Dr. H. says, they depress the action of the heart. The acetate and iodide of potash may be advantageously combined with the carbonate of ammonia, or perhaps the hydrochlorate of ammonia.

The *seventh* is to prevent secondary complications, and to relieve them when produced. These complications are—1st, broncho-pneumonia and pleuritic effusion; 2nd, pulmonary apoplexy and other hæmorrhages; 3rd, visceral engorgement, as hepatic and renal congestions, with ascites and anasarca. By freely acting on the bowels, the portal congestion is greatly diminished, and the liver is enabled to act in a normal manner. Thus a free mercurial purge is of great value. The kidneys may be ex-

cited to a more vigorous action by a combination of mercurial medicine with squill and with digitalis, when the latter can be borne. Salivation should be avoided. Diuretics are useful. An effectual way of diminishing the anasarca is by puncturing the skin on the thighs. The pulmonary engorgement is sometimes greatly reduced by applying cupping-glasses between the shoulders, or by the application of a blister to the chest.

Art. 54.—*Rupture of the Tricuspid Valves of the Heart from fright.*

By Alfred Hitchcock, M.D.

(*Boston Med. and Surg. Journal* and *New York Med. Journal*, May, 1867.)

"The subject, Mabel H., aged two years and nine months, was uncommonly fleshy, of a sanguine and very nervous temperament; the intellect and affections being somewhat precociously developed. The child had been many times frightened by fire alarms, and was often nervously excited by loud noises and other sudden and unusual causes. In the middle of the night of July 16th, 1865, the steam fire whistle sounded an alarm suddenly, and somewhat protracted, in the immediate vicinity of the grandmother's residence, with whom the child was then stopping. It awoke in terror, screaming, and panting for breath, with suffocating paroxysms. It was several hours before a moderate degree of quiet could be restored: toward morning, however, the child slept a little, but the breathing was laboured and the skin somewhat livid. Spontaneous vomiting occurred soon after the injury, and was many times repeated before death. Vomiting did not relieve the dyspnœa. During the 17th and 18th, the dyspnœa continued, varying in severity, but constantly increasing the suspicion of some very grave mechanical lesion. The radial pulse was much of the time absent, or too feeble and irregular to be counted; and the sounds of the heart were either too feeble to be heard or too irregular and tumultuous to be in any manner identified. There was loud and moist bronchial and tracheal rattle, so as sometimes to suggest the presence of some foreign body in the respiratory passages. The weight of evidence, however, during life, as derived from the vomiting, the pulselessness, the lividity, and dyspnœa, warranted the expression of a belief that some mechanical obstruction existed at the cardiac valves. This theory of the case strongly impressed itself on my mind, from the fact of having within a few years seen two cases of death from polypi plugging up the right auriculo-ventricular passage, each of which was attended by the same phenomena manifested in this case. The child died seventy-eight hours after the fright.

"Dr. George D. Colony assisted me in the *post-mortem* examination. The right auriculo-ventricular valves of the heart were lacerated and broken in their substance; also several of the *carneæ columnæ* and *chordæ tendineæ;* and the endocardiac serous membrane in the vicinity was ecchymosed and elevated by the infiltration of blood underneath and around the points of ruptured tissue. The right auricle and ven-

tricle, by the destruction of the tricuspid valves, became one continuous distended pouch, which contained a small quantity of coagula. This change in the cavities and mechanical relation of the heart's propelling power, of necessity created a fatal inability in the right ventricle to impel sufficient blood to the lungs to sustain life for any considerable time."

Art. 55.—*On the Influence of Contractions of the Orifice of the Pulmonary Artery upon the formation of Pulmonary Tubercle.*

By M. Lebert.

(*Gazette Hebdomadaire*, No. 29. 1867.)

The following is the substance of a paper of M. Lebert's which was presented to the Academy of Sciences by M. Velpeau :—

M. Lebert, whilst studying the mechanical elements of the etiology of tuberculous affections, as for example pulmonary irritation in all its forms among jewellers, miners, &c., was struck with the frequent occurrence of pulmonary tubercle in cases of congenital contraction either of the conus arteriosus, or of the orifice of the pulmonary artery.

M. Lebert has been enabled to collect twenty-four cases of this kind, an imposing number if the relative rarity of this affection be considered. The frequent development of pulmonary tubercle in connexion with this malady is the more striking, as it is a very rare occurrence to meet with them in cases of the varied and frequent affections of the orifices of the left side of the heart. In the cases of M. Lebert, all were under the age of twenty-five, and women were affected almost as frequently as men. In twenty-one cases the contraction was considerable; in two instances it is imperfectly described; and in one, the passage of the blood through the pulmonary orifice was considerably impeded by a congenitally abnormal state of the tricuspid valve, which was in a rudimentary condition, but an extensive newly-formed membrane furnished with papillary muscles and tendons, divided the right ventricle into two equal parts, which communicated only by narrow orifices which materially obstrueted the passage of the blood from the ventricle to the cone of the pulmonary artery. This case was observed and very well described by Dr. Ebstein, of Breslau. Another case of very marked contraction of the pulmonary artery and extensive communication of the two ventricles and the two auricles was also observed in the same hospital, and reported by M. Lebert in Virchow's Archives.

Three special forms of congenital contraction have to be distinguished, the primitive narrowing of the pulmonary artery, which is then supplied with two valves only,—this is a variety of malformation; next the contraction of the conus arteriosus, and finally that of the orifice of the pulmonary artery. These two last morbid conditions are owing to extra-uterine inflammation, either myocarditis or endocarditis; and as the interventricular septum is generally found either absent or extensively deficient, this inflammatory attack must have occurred before the end of

the third month of extra-uterine life, since at this epoch the two ventricles are distinctly separated by the septum. The foramen ovale frequently, the ductus arteriosus more rarely, remains patent. The result of all these changes is an irregular, disturbed, and incomplete pulmonary circulation. The dilatation of the bronchial, œsophageal, and coronary arteries, and of the subclavian itself, furnish but an incomplete collateral circulation, and one which after a long time impairs the nutrition of the lungs, since these organs have been frequently observed to be small and incompletely developed in these congenital alterations. It is by this irregular, inadequate, and incomplete circulation that the morbid changes about to be described are caused, whilst the most intense and extensive pulmonary hyperæmia dependent upon alteration of mitral or tricuspid openings does not bring about the development of tubercles in the lungs.

Clinical study as well as pathological anatomy teaches that in cases of this kind the physician has not before him an instance of a few disseminated tubercular granulations, but a long, progressive, and fatal disease. Between the ages of ten and twenty-five it is one of the chief causes of death in pulmonary contraction. A rapid march of three or four months is a rare exception; most frequently the tuberculous affection lasts for years. The frequency of hæmoptysis has been particularly remarked in these cases. Amelioration during a warm season is not rare in the earlier stages of the malady, but at a later period hectic fever and marasmus increase, and persist until the last; whilst in ordinary phthisis pulmonalis it is the right lung which is affected first, in stenosis of the pulmonary artery it is the left, that which is pressed when attacked first is for a long time the only one affected. One case observed by M. Lebert seemed to be an exception; but the rule was confirmed by it in the sense that the heart was so situated as to compress materially the right lung. The physical signs and the consecutive symptoms in other organs offer no peculiarities.

The anatomical characters are the same as those of the other forms of tuberculization, which morbid condition Lebert regards as a slow phlegmasia, excited by small and disseminated pneumonic foci, or by numerous tubercular granulations which in most instances are consecutive to these foci, a phlegmasia which is derived entirely from debility and cachexia, in spite of some exceptions, since chronic inflammation, as for example, cirrhosis of the liver, chronic inflammation of the parenchyma of the kidneys, and even many cases of slow phlegmasia of the bones and joints, is generally, or at least very frequently owing rather to a depraved than to a sthenic state of the constitution.

It is therefore a matter of interest to establish the fact that contraction of the pulmonary artery at its origin tends indubitably to the production of an extensive and progressive pulmonary tuberculization which may be distinguished both by clinical characters and by pathological anatomy.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 56.—*Treatment of Chronic Pharyngitis.*

By Dr. J. R. BLACK, of Newark, Ohio.

(*Cincinnati Lancet and Observer*, November, 1866, and *New York Medical Journal*, April, 1867.)

Dr. Black, in an article on the above subject, says :—"In those cases in which there is no obvious general indication to fill, one or the other of the applications to be mentioned have rarely failed to give prompt relief, and, when persevered in, to effect a radical cure. ℞ tinct. iodinii, glycerinæ, ana ʒss, bals. fir. ʒiss. Apply to the irritated or ulcerated parts once daily, with a camel-hair brush. This preparation diffuses itself rapidly over the fauces, soothing the irritation, and clearing the throat by free expectoration. When the inflammation has extended into the nasal cavity, the most convenient and practicable mode of reaching it with the medicine is by insufflation. Pour half a teaspoonful into the palm of the hand, or on a bit of sized paper, apply closely to nostril, close the other with the finger, and give a forcible inspiration. In case the disease has extended into the larynx, and become chronic, the tincture of iodine mixed with spirits of ether comp. and used by inhaling the vapour, gives very gratifying results. This may be used once or twice daily.

From some idiosyncrasy or other inexplicable reason, the above remedy does not always have its usual curative virtues, in which instances the following elegant preparation will be found strikingly beneficial. The active ingredient is the same used in Luly's patent nostrum. ℞ Hyd. bichor. gr. viii., ammon. muriatis gr. xx., glycerinæ, aquæ rosarum, ana ʒss. Apply as above, though greater caution is required against swallowing any of the mixture.

ART. 57.—*Treatment of Diarrhœa.*

By J. JOHNSON, M.R.C.S., of Oldham.

(*Medical Times and Gazette*, August 3, 1867.)

The following remedy will be found, Mr. Johnson says, well worthy of a trial. In his practice it has been very successful, and other practitioners speak very highly of it. ℞ Creosoti ʒiij, opii Turc. ʒij, capsici pulv. ʒij, krameriæ pulv. q. s. ut fiant pil. cxx.

Preparation.—Put the opium (which should be moderately soft and cut into small pieces) and the creosote into a vessel of convenient size. Put on a good-fitting cover, and place the vessel in a water bath for about twenty minutes. Then take it out, mix the contents well together, and afterwards add the other ingredients. Adult dose, two pills every two hours until the violent symptoms are relieved.

Art. 58.—*On the Treatment now used against the Hydatid Disease in Iceland.*

By J. Hjaltelin, M.D., Inspecting Medical Officer of Iceland.

(*Edinburgh Medical Journal*, August.)

Dr. Hjaltelin makes the following observations on this subject:—"The hydatidic disease of the liver was in former days in Iceland looked upon as a sort of chronic enlargement of that organ, and was therefore called *liver infarct* (infarctus hepatis), and supposed to be produced by a stoppage in the hepatic vascular system. At that time the disease was treated by resolvent and laxative medicines, which were expected to relieve or resolve the intumescence of this organ. The medicaments then most used were rhubarb, cicorium, soap, and some preparations of mercury, especially calomel internally and mercurial ointment externally. But although this treatment was in most cases only palliative, cases are on record where the mercurial treatment really seemed to have removed the hydatidic disease. Some of those cases were described in a Danish medical newspaper, called the *Bibliothek für Lager*, of 1831-32, and also, as far as I can remember, in Huffeland's Journal; they were also noticed by some medical travellers in Iceland; and in the year 1839, I saw two cases cured in this way by the late chief physician of Iceland, Thorsteinson; one of these patients still lives near Reikjavyk, and was, when I last saw him, perfectly healthy.

"This treatment has of late been recommended by the renowned pathologist, Hermann Lebert, at Breslau, and this he did in a learned congress of medical men in Switzerland about three years since. He proposed to use calomel internally with kousso, but whether his propositions have been carried out in Germany or not, I have been unable to ascertain.

"When the modern pathologists had discovered that the hydatidic disease of the liver consisted in a parasitic growth of certain species of tænia, little credit was given to internal medicine in this disease, as it was thought impossible that such physic could reach the parasite in his hidden abode in the liver. The innermost membrane of the parasitic hydatid tumour seems to be without vessels, and it was therefore thought impossible that any medicine could be absorbed into it. In reasoning thus it seems to me that the organic imbibition has not been taken into due account; for it seems quite evident that the parasite of the hydatidic tumours, be it in the liver or any other internal organ, can but be nourished by the fluids of the body, and therefore only through the vascular system. But accepting this to be a true and undeniable physiological fact, the consequence must of course be, that whatever sort of physic comes into the blood, so that this fluid itself is duly impregnated with it, this stuff must reach the parasite although quite invested by a non-vascular membrane, but which, nevertheless, permits imbibition. Taking this as granted, I proposed, in the year 1863, to destroy the echinococci of the human body, and especially those of the liver, by the tincture of kamala. My proposal I sent to the Royal

Sanitary College at Copenhagen, and this was a little before, or just at the same time, when Professor Hermann Lebert had made his proposal regarding the aforesaid treatment of this disease by calomel and kousso.

"My proposal was built upon the following arguments:—

1. Because kamala is at this time looked upon as the most trustworthy remedy against 'tapeworm' in man and animals, and it can only be so by reason of its strongly poisonous effect on those parasites.

"2. There can, according to my views, be no difficulty in getting the tincture of kamala into the current of the portal vein, for if we remember that all alcoholic liquors are in the stomach absorbed by the portal veins of this organ, they must quickly and directly be thrown into the liver.

"3. The first trial to make was to ascertain whether the tincture of kamala could be mixed with water without being precipitated or decomposed, or not, and having, by some experiments, ascertained that this was not the case, I thought it fully warranted to give it a fair trial.

"The Royal Medical College at Copenhagen had nothing to say against my views and proposals, and I consequently hastened to execute them. The first patient who used this remedy was a girl of sixteen years; she took thirty to forty drops of the kamala tincture three times a day in a tablespoonful of water. The hydatidic tumour was in her situated in the right lobe of the liver, a little below, and at right of, the ensiform cartilage; it was of the size of a large egg, and gave by percussion a most clear sound or feeling of the 'frémissement hydatidaire.' The patient was affected by icterus, with eructations, dyspepsia, intestinal catarrh, and constipation, and was therefore very weak. After having used the kamala tincture for ten days, my little patient found herself much better; the icterus was gone, and the tumour was far less tense than it had been when she had begun to take the tincture. In about six weeks the tumour was quite gone, and she has ever since been in excellent health. The second trial was now made in an adult servant-maid, who, for more than three years, had been complaining of a large hydatid tumour in the left lobe of the liver, with dyspeptic symptoms. After the lapse of one month, this patient was radically cured, and has since that time, or for nearly two years, been quite relieved of her former complaint. No less than about twenty other patients have, during the last two years, been treated with the same favourable result.

"Having thus established the curative effect of tincture of kamala, I asked all my medical brethren in Iceland to give this remedy a fair trial. Two of them, who were the most experienced, now began to use it extensively, and they have in the last two years given me very satisfactory reports of their hydatidic cases treated in the aforesaid manner.

"But notwithstanding these favourable results, there are many cases of the Icelandic hydatidic disease where this remedy will not be able to effect a cure. This is especially the case in long-standing hydatidic tumours, where matter has been formed in the interior of the cyst itself, and then nothing remains but a judicious operation. The opening of

the hydatidic sac has of late in Iceland been performed in different manners; the oldest and most common method of opening it is that with the troisquart, but this has seldom been done except when the sac had reached that enormous volume to fill up the whole abdominal cavity, so that punctures could be made either below the umbilicus, or in the sides, between the umbilicus and the anterior spine of the ileum.

"I know a very able surgeon, Dr. Thorarensen, who has performed this operation about forty times, and, indeed, with very good success, having on the whole not lost more than six or seven patients. I have often performed this operation myself, both in the aforesaid places and in different other parts of the abdomen, sometimes with a capillary troisquart, sometimes with an ordinary troisquart, and sometimes with the bistoury. Out of thirty-six cases thus operated on, I have lost six. The operation has been most successful if undertaken early, and with the capillary troisquart plunged into the most prominent part of the cyst itself. It is, moreover, remarkable, that out of six cases which have been opened with the bistoury, all have been radically cured, and I have observed that the following "peritonitis" has been far less extensive and dangerous than when the operation was performed with an ordinary troisquart.

"The method of Recamier, of opening the hydatidic cyst by caustics, has of late been performed in Iceland by one medical man, Finsen, and, according to his own description, with favourable success. Not a single one of our medical brethren in this island, except myself, has thought it advisable to follow this method, and to tell the truth, I myself had little occasion to admire it. I found also some cases operated upon by Dr. Finsen, which turned out very much to the disadvantage of this operation. In three cases which I saw, he had completely failed to open the sac, and they were all nearly lost under the symptoms of most diffuse peritonitis. I have tried this method in five cases, and had in them all to deal with extensive peritonitis. One of those patients died, and it was, from the autopsy, evident that the supervening acute peritonitis was occasioned by the caustic employed; and I really think that it will be found of little difference whether we apply the caustic potass or the caustic of Vienna, as Finsen did, for in both cases a dangerous inflammation of the whole peritoneal coat may be expected.

"There are in Iceland many cases (I should think about one-third of all hydatid cases) where the hydatidic tumour is situated at the lower border of the liver, about the capsule of Glisson. Such cases are in the beginning extremely bad to diagnose; the most common symptom in the beginning being icterus, but which also may depend on other pathological changes either in the liver itself or in the stomach and intestines, as gastric catarrh, gallstones, or enteroliths, which are of no rare occurrence in Iceland. In those cases there cannot any operation be thought of for the relief of the sick, and the patients are invariably lost, unless the cyst, which often may reach an enormous size, should burst into the abdominal cavity, from whence it may be drawn out by abdominal paracentesis. Many cases of this sort have come under my treatment, but most of them have terminated fatally. In these cases I look upon the kamala tincture as the only reliable remedy,

but it ought to be given before matter is deposited in the interior of the cyst, or as soon as possible, and it will, I think, hardly fail to cure the disease."

Art. 59.—*On the Treatment of Acute Idiopathic Peritonitis.*

By Dr. Duparcque.

(*Gazette des Hôpitaux*, No. 110. 1867.)

Acute peritonitis presents the same therapeutical indications as other phlegmasiæ, and chiefly those of serous membranes, as pleurisy and meningitis. The treatment should be prompt and energetic; copious bleedings should be practised before the third day, preferably by the lancet; and afterwards, if required, by the application of leeches or cupping glasses. Calomel should be given in small doses. This remedy fulfils a double purpose, and acts as a laxative, a derivative, and also as a resolvent. Baths should be rejected, as they are very inconvenient and dangerous, and the same advantages are afforded by light and continuous fomentation.

Attention should be paid to the urinary secretion, as retention causes considerable aggravation of the symptoms of peritonitis, and may even excite a suspicion of peritoneal effusion. In a patient under the care of Dr. Duparcque, with peritonitis, pain, tenderness, and tympanitis were much diminished on the eighth day of the disease, and resolution of the inflammation was expected. The tympanitis, however, came on again, and the abdomen was distended; the pain and tenderness at the same time changed their seat, and were concentrated in the hypogastric organ. The patient had continued to pass his water, but in small quantities. A catheter was passed, and a considerable quantity of thick urine drawn off. The abdomen was then restored to its normal condition, and the patient became convalescent.

When meteorismus is developed cold may be applied with benefit. In one of Dr. Duparcque's cases it succeeded, but in another the use of cold was followed by rigors and fatal pleurisy. As bad results may follow the soaking of the bed-clothes, which cannot be always avoided when ice is applied, notwithstanding every precaution, one of the anæsthetic refrigerants lately introduced into practice may be used instead.

Dr. Duparcque has derived great benefit from the use of collodion in several cases of peritonitis. In a case of a young lady, the inflammation, which had been previously relieved by an active and early treatment, became stationary on the eighteenth day; the abdomen was then less distended, but continued to be painful and tender on pressure; these troublesome symptoms disappeared after the application of a collodion compress. The patient recovered, but remained sterile, in consequence, Dr. Duparcque believes, of adhesions resulting from the peritonitis, the starting point at centre of which was the pelvic region.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 60.—*On the Pathology of the Liver and Kidney.*

By GEORGE JOHNSON, M.D., M.R.C.P., Professor of Medicine in King's College.

(*The Lancet*, August 31, 1867.)

The following are the various points of analogy between the liver and kidneys as regards their structure, functions, and pathology :—

A. Fatty degeneration occurs in both, and in both much of the fat accumulates in the gland-cells.

B. Both organs are liable to the same forms of inflammation.

1. Suppurative inflammation is more common in the liver, chiefly because the blood of the portal vein is especially liable to be contaminated by morbid fluids from ulcers in the intestines, &c., and by the products of inflamed hæmorrhoidal and other veins.

3. There is an acute and a chronic form of inflammation which is *not suppurative*, and which in the kidney I have called *desquamative*.

C. That remarkable form of degeneration which has been called *scrofulous*, *lardaceous*, *waxy*, or *amyloid*, occurs in both organs, and has essentially the same characters in both.

D. The so-called fibrinous deposits occur in both, and these deposits are liable to undergo a fatty transformation, and thus give rise to an appearance which has been called local fatty degeneration of the liver and kidney.

E. Cancerous and hydatid tumours occur in both organs; but these are both more common in the liver than in the kidney.

F. Lastly, concretions may be formed out of the secretion of each organ: gall-stones in the liver; urinary calculi in the kidney.

ART. 61.—*Note on a Case of Albuminoid Precipitate in the Urine.*

By ARTHUR LEARED, M.D., M.R.I.A.

(*Medical Times and Gazette*, October 26th, 1867.)

A gentleman of slight make, twenty-seven years of age, who had returned from the East Indies on sick leave, consulted Dr. Leared on account of the following symptoms—a sinking sensation before meals, and at times a ravenous appetite; but he had no proper dyspeptic symptoms. A soft murmur was found to have replaced the first sound of the heart. He never had rheumatism. The urina cibi was faintly acid, specific gravity 1035; it contained opaque casts of tubes, and oxalate of lime crystals. On the cautious addition of nitric acid it became perfectly white and opaque, like chylous urine, but cleared as perfectly by a further addition, or on being sufficiently heated. It behaved in the same way when

acted upon by hydrochloric, acetic, or phosphoric acid; but when a precipitate was caused by bichloride of mercury, it was not redissolved by excess of the bichloride nor by heat. It contained no sugar, and its high specific gravity, due to excess of urea, is noticeable, as distinguishing it from albuminous urine.

It is plain that the precipitate was not albumen, although allied to it. As the patient was born in the West Indies, its alliance with the deposit which occurs in chylous urine also suggested itself, but the distinction was here again sufficiently marked.

Albuminoid precipitates in the urine have been recorded in a few instances, and would probably be found more frequently if distinguished from those of albumen. They possess great interest in their bearing on nutrition and other questions, and for this reason it seemed to me worth placing the present case on record.

Art. 62.—*Incontinence of Urine successfully Treated with Extract of Belladonna.*

(*The Lancet*, February 16th, 1867.)

A healthy-looking country girl, fourteen years old, was brought by her mother to the Metropolitan Free Hospital on the 11th January last. She had suffered from nocturnal incontinence of urine for the last two years. Not a night passed without her wetting the bed, and to such an extent that she had been compelled to lie upon straw covered with a sheet in order to change her bedding daily. She had been taken out of bed at night, scolded, and ridiculed without any effect in making her abandon the habit. Dr. Drysdale ordered her a quarter of a grain of extract of belladonna as a pill, to be taken at bedtime every night. On the 15th of January her mother came to say that she had not wetted her bed since taking the medicine. Up to the 18th January there was no return of incontinence of urine. Dr. Drysdale remarked that he had in many cases seen similar results from the use of belladonna in this disease, and supposed that the drug acted by paralysing the detrusor urinæ muscle.

Art. 63.—*On the Pathology of Albuminuria.*

By Dr. M. Semmola.

(*Gazette des Hôpitaux*, *No.* 124, 1867.)

Albuminuria and the renal lesions in Bright's disease should be regarded as the result of a double series of effects which follow a more or less sudden suppression of the cutaneous functions. The first series comprises general disturbances of respiration, which prevent the oxidation of nitrogenous material introduced into the organism in the form of peptones; in consequence of this, the production of urea is diminished

on the one hand, and the necessary elimination of albumen on the other. The diminution of the sulphates in the urine, which characterizes albuminuria, is explained by this doctrine, since it is a consequence of the reduced combustion of albuminoid principles, of which sulphur is one of the chief sources. The second series of effects is represented by changes of a mechanical order, due to a congestion of the peripheral circulation, and producing mostly a congested condition of the kidneys, which persists as long as the cause remains; it is ever increased by functional irritation due to forced elimination of albumen, and becomes the starting point of very serious faulty changes in nutrition, the development of which is much favoured by a state of general cachexia, caused by the respiratory paresis. The production of amyloid substance may be regarded as one of the nitrogenous products of an incomplete nutrition.

It is therefore quite natural that the production of urine should be diminished by impairment of the respiratory functions, and that the diminution of albuminous urine should not be accompanied, in the first period of the disease, by anæmia, whilst in the second period, when the changes in the minute structure of the kidney prevent the filtration of the components of the urine, the amount of urea should be still diminished, and that this substance should accumulate in the blood and lead to a fatal termination of the disease. It seems evident to Dr. Semmola that albuminuria and the renal lesion ought not to be considered as holding a relation of cause and effect, but rather as the results of one and the same cause, which take a simultaneous but separate progress, and mutually control one another, and whilst a hopeless cachexia is produced in consequence of disturbed nutrition, the kidneys are subjected to all consequences of hyperæmia or commencing nephritis. By this doctrine based upon all kind of proofs, Bright's disease ought to be considered in an etiological point of view as a functional paralysis of the skin; pathologically, as an asphyxia of albuminoid substance; and anatomically, as a fatty and amyloid degeneration of the kidneys.

Since these last changes really constitute the second stage of the disease, it is necessary to abandon a purely anatomical view of Bright's albuminuria, which has been fatal to the progress of treatment, as one would not venture to consider as progress the continual deceptions of indications derived by hypothesis, or by apparent antagonisms between the evident effect of a remedy and the nature of a symptom.

Dr. Semmola has obtained the best results in cases of albuminuria from a combined treatment of sweating and hydropathy, and also from the administration of arsenic in very small doses, and inhalations of oxygen. This plan of treatment like others has but very little effect in advanced cases in which the urine contains fibrinous cylinders enclosing epithelial cells fatty or infiltrated with molecular material, and granulo-oleaginous or hyaline cylinders. Dr. Semmola frequently combines iodide of potassium with the arsenic; he thinks that this salt is very useful and has considerable influence in arresting the interstitial degeneration of the kidneys.

Art. 64.—*Granular Kidneys; rapid Œdema of the Glottis.*

(Under the care of Dr. Barclay, of St. George's Hospital.)

(*The Lancet*, July 6th, 1867.)

The mode in which death occurred in the following case is very rare as a termination to Bright's disease. Nor is it common, so far as recorded experience goes, for that very fatal condition, œdema of the glottis, to be dependent upon disease of the kidneys. For notes we are indebted to Dr. Reginald Thompson, medical registrar:—

William B——, aged sixty, was admitted with a history of irregular quartan ague of five weeks' duration, the last fit having taken place two weeks before applying. On admission he was sallow and cachectic; no enlargement of the spleen was detected, and he continued in the hospital without any symptoms of ague. The urine examined was pale, of low specific gravity, but no albumen was discovered. On the morning of the 15th February he was up and about the wards, apparently in very good health, except that he complained of some soreness of the throat. When seen at three p.m. he was very tremulous; had a very hot skin, was shaking all over; his pulse was very rapid, and he complained of much difficulty in swallowing, but his voice was not husky nor altered in quality. He became rapidly worse, and died at five p.m.

The following are from Mr. Pick's notes of the examination of the body:—There was excessive œdema of the glottis as well as of the true and false vocal cords, but the œdema did not extend below the former. The cartilages of the larynx were ossified. Large quantities of mucus were found in the bronchial tubes, and the muscular coat was much hypertrophied. The heart was uncontracted; the aorta was atheromatous. The liver was small and hard, and in a state of commencing cirrhosis. The kidneys were granular, and contained cysts on the surface; they were congested; capsule adherent and splitting, and the secreting structure diminished.

(F) CONCERNING THE CUTANEOUS SYSTEM.

Art. 65.—*On the Treatment of Scabies.*

By Erasmus Wilson, F.R.S.

(*Diseases of the Skin*, 6th edition.)

"In selecting our measures of the treatment of scabies," writes Mr. Wilson, in his invaluable work on 'Diseases of the Skin,' "our attention should be directed to the employment of remedies which will act with certainty, and will produce the least possible degree of excitement in the cutaneous surface. Such a remedy is presented to us in sulphur, which may be regarded as specific. To effect the cure, the sulphur is

rubbed into the skin, and is conveyed by imbibition into the texture of the epidermis. Here it probably combines with hydrogen, and sulphuretted hydrogen gas is evolved, which acts as a deadly poison on the acarus, and destroys its ova. To effect the cure of scabies in the shortest possible time, the best preparation of sulphur is the simple sulphur ointment of the British Pharmacopœia, of which, in the adult, two to four ounces should be well rubbed into the affected portions of the skin, morning and evening, for two days. It is desirable also that the patient should wear a woollen shirt, and retain the same during the whole treatment. When this covering is not sufficiently large to envelope the entire body, he should also lie between blankets. On the morning of the third day the patient should take a warm bath and wash the skin thoroughly with plenty of soap, when the cure will generally be found to be effected. This method, while it offers the advantage of a rapid cure, is liable to the inconvenience of producing accidental eruptions. We are in the habit of combining with this plan the internal administration of sulphur, in doses of ten grains to a scruple, with a like quantity of bitartrate of potash; or a drachm of confectio sulphuris night and morning."

Art. 66.—*Treatment of Scabies.*

By T. W. Belcher, M.A., M.Ch. and M.D. Dub., B.M. and M.A. Oxon.

(*Medical Press and Circular*, August 21, 1867.)

Dr. Belcher says to his judgment no plan of treatment is at all equal to that adopted for some years in our military hospitals. During the Russian war he served as surgeon of a militia regiment, and had a large experience of the old and new plans of treatment of this disease. Numbers of half-starved, dirty recruits were daily joining his regiment, and were at first subjected to the old plan of being stripped naked, obliged to lie for days on a floor covered by a blanket, and greased all over with sulphur ointment. The wretched men were at the same time cut off from all communication with the outer world as effectually as the lepers of sacred history.

Soon, however, Dr. Belcher tried the new plan, and gave some cases in point in the thirty-third volume of the *Dublin Quarterly Journal* (p. 474). The cases were uniformly successful with him, as they were with Dr. Frazer, who subsequently tried it, and bore testimony to its merits in his work, published in 1864 (p. 68).

The ointment is composed of a penta-sulphide of calcium, and a hypo-sulphite of lime, as expressed in this formula:—

$$3\,Ca\,O + 12\,S = 2\,Ca\,S_5 + Ca\,OS_2\,O_2$$

It is made and used as follows: One part of quick lime, and two of sublimed sulphur, are boiled in ten of water, until the lime and sulphur are perfectly united, stirring meanwhile with a piece of wood and decanting the mixture into a well-stopped bottle. The patient takes a

hot bath, wherein he may, but need not necessarily be, washed with soft soap; has some of this fluid rubbed diligently into his skin for half an hour; takes a second hot bath; comes out cured, and dresses in fresh clothing.

The last part of the process—fresh and clean clothing—is *essential*, for as the disease is notoriously contagious, it is obvious that unless this direction be attended to the patient will, almost to a certainty, contract it afresh.

Art. 67.—*Sulphuret of Calcium in Scabies.*

(*The Lancet*, September 21, 1867.)

Vleminckx uses in scabies the sulphuret in the following manner:—Quick lime, one pound; spring water, a sufficiency; sulphur, two pounds; water, twenty pounds. Boil to twelve pounds. The patient is placed in a tepid bath for half an hour; then, on leaving it, all the parts affected are rubbed with a piece of flannel dipped in this solution. The patient is then placed in a second tepid bath for another half hour. The same measures are repeated the next day, and the itch is conquered. Eczema may follow this mode of proceeding, and this complication may take several days to control.

Art. 68.—*Itch in Delicate Skins.*

(*The Lancet*, September 21, 1867).

Hebra uses the following compound: Petroleum and spirit, of each one ounce; balsam of Peru, one fluid drachm; oil of rosemary and lavender, of each fifteen minims.

Art. 69.—*Case of Erythema Nodosum.*

By Henry Samuel Purdon, M.D., Physician to the Belfast Dispensary for Diseases of the Skin, &c.

(*Glasgow Medical Journal*, September, 1867.)

The following case of Erythema Nodosum is interesting, inasmuch as it occurred in an elderly female, this disease being usually met with in young people; and also because a new agent—the peroxide of hydrogen—was the remedy upon which the cure depended:—

Mrs. H., aged sixty, a widow, has for many years been in a very delicate state of health; complains of loss of sleep at night, easily fatigued, appetite bad, and bowels constipated; never had rheumatism. During the spring of the present year, after an attack of what was attributed to "biliousness," accompanied by nausea, feverishness, pains in the back, furred tongue, and quick pulse, the patient experienced a

feeling of tingling on the anterior surface of both legs, an eruption coming out all over the affected surface at once, becoming harder, more painful, and deeper in colour, until the fifth day, after which the eruption began to fade, passing first through various shades of green, yellow, and purple. After disappearing the epidermis desquamates. In the course of a week a new eruption appears, and this continued for upwards of six weeks in spite of every remedy prescribed—the patient being greatly exhausted by loss of sleep, pain, &c.

The patches were of an oblong shape and of a reddish colour, their margins being well defined; the disease was most rebellious to treatment, such remedies as chlorate of potash, quinine, &c., being of no avail. Considering that the disease was probably due to a blood origin, it was deemed expedient to try the peroxide of hydrogen in drachm doses three times a day, which remedy at the end of one month produced a permanent cure, nor has there been any return of the complaint up till this date, August 3rd. The peroxide of hydrogen was first introduced by Dr. B. W. Richardson about four years since, the medicinal properties and action of which appear to be a stimulant, probably acting by oxidizing the blood, and is a very valuable remedy in diseases depending on a blood origin, as diphtheria, rheumatism, &c.

Art. 70.—*Freckles.*

(*British Medical Journal*, July 27, 1867.)

For the removal of freckles, Dr. Savignac employs successfully lotion of Vichy water for two or three minutes night and morning. The skin should be allowed to dry without wiping it.

Art. 71.—*Impetigo.*

By T. W. Belcher, M.A., M.Ch., and M.D. Dub., B.M. and M.A. Oxon; Fellow and Censor of the King and Queen's College of Physicians; Physician to the Dublin Dispensary for Diseases of the Skin, &c.

(*Medical Press and Circular*, August 7, 1867.)

Dr. Belcher makes the following remarks on impetigo:—

Impetigo, derived, according to Pliny, *ab impetu, impetu agens;* is the *dartre crustacé, lépre humide* of the French; *Zittermal, der Kleienaussatz* of the Germans, and *crusted tetter* in our own language. According to Neligan, and other standard writers, it is a *pustular* affection, as distinguished from eczema, which is vesicular. Erasmus Wilson, Hardy of Paris, and Hebra of Vienna, all first-class authorities, believe it to be an eczematous affection. In point of fact, any one engaged in the routine of cutaneous practice will find no small difficulty in adhering

closely to either of these opinions, particularly when a case, as it often does, presents features peculiar to both affections, as described in books. In eczema impetiginodes, as seen among the poorer classes, it is very difficult to discern, at times, between one and the other.

Varieties.—Neligan described three varieties. *Impetigo figurata*, when the disease appears in patches of a circular or ovoid shape; *impetigo sparsa*, when the pustules are developed individually, and appear scattered over the cutaneous surface; and *impetigo capitis*, which, Dr. Neligan remarked, "is the only pustular disease which appears exclusively on the scalp."

Contagion.—Dr. Neligan was of opinion that impetigo is not contagious; and I have seen many cases, which, so far as they went, fully justified this opinion. On the other hand, Dr. Tilbury Fox, in the *British Medical Journal* for May and June, 1861, has fully described a form of this affection which was epidemic among the patients at the Farringdon General Dispensary, and which he believed to be contagious. Now, this very day (2nd August, 1867), I have under my care three cases (a brother and two sisters) in which there is strong evidence in favour of contagion, and little on the other side. In the two detailed above, it must be said that they were also brother and sister, and there is some presumption in favour of contagion so far as they are concerned—balanced, however, by the facts that both were fed on poor oatmeal; both lived in a fishing neighbourhood; and that none of their *other* brothers and sisters living with them have contracted impetigo.

The question is a practical one, and medical men are often asked—"Should children so affected sleep or go to school with healthy children?" To this, the safe and prudent answer is—*No.*

Causes.—Impetigo most frequently occurs in infants and children; it is frequently connected with dentition, and with the scrofulous diathesis. Irritants applied to the surface, such as washing in very hot water, using hard hair-brushes and fine tooth-combs, stimulating soaps, solar and igneous heat—commonly get the credit of determining its origin.

Diagnosis.—It is *pustular*, and when fully developed in typical cases, has crusts of a semi-transparent, soft, greenish-yellow, honey-like appearance. From eczema impetiginodes it is, as I have already said, with difficulty distinguished at times. Yet, where the diagnosis can be made, the peculiar ichorous exudation and epidermic desquamation of eczema will suffice. From ecthyma, which has large or *phlyzacious* pustules, it is distinguished by its small or *psydracious* pustular eruption. In scabies, the pustules, where such occur, are large and conoidal; besides, the peculiar symptoms which make "itch" the Anglican synonym for scabies, and the acarus scabiei, which is mostly present in this latter affection, will distinguish it from impetigo.

From *Sycosis* it is distinguished by the facts that, in that affection the disease affects the locality of the beard, is not truly pustular; the crusts are hard and dry, and of a brown colour; and, most important of all, microscopic examination discloses the presence of a vegetable parasite.

Prognosis.—Favourable. It is rebellious in adults and in old persons; and in young persons is liable to return in the summer and autumn months. Its obstinacy is said to be in proportion to its previous

duration, but in all the cases which I have seen, my experience has not led me to confirm this opinion.

Treatment.—The constitutional treatment should obviously be different in the young and plethoric; in the old and debilitated; and in the debilitated and strumous child. The green iodide of mercury may be advantageously used in chronic cases, also the arseniates of soda, and of ammonia. The gums of infants at the breast should be examined, as they occasionally require to be lanced; and alkaline treatment at this age is most serviceable. The *local* treatment is, however, the most important in this affection; and in the cases above detailed I have sketched the general idea which may be developed in particular cases according to age and condition. For the irritation and tingling commonly attendant on the acute stages—no remedy equals chloroform; and after many trials of hydrocyanic acid I have almost entirely abandoned it in favour of the former. Alkaline applications are also very useful, and particularly so when combined with chloroform. All kinds of irritating food should be avoided, and, so far as possible, milk and farinaceous diet should be adopted.

Art. 72.—*Contagious Impetigo* (*Phlyctenodes*).

By Tilbury Fox, M.D. Lond.

(*The Lancet*, August 10, 1867.)

In this paper Dr. Fox directs attention to the *clinical* features of a common form of cutaneous disease, seen especially in dispensary and hospital practice, and universally classed by practitioners with eczema impetiginodes or impetigo simplex, but which is, as regards nature and treatment, a wholly distinct affection. Its cure is usually certain and easy by local means. It is classed under the term porrigo, as used by some writers, and is one of the many varieties of eruption which together constitute the composite "scald head." Dr. Fox has hitherto called the disease contagious impetigo; for it is essentially inoculable (contagious). It is often *quasi*-epidemic; it differs in severity and in features at different times, tends to run a definite course, exhibits a uniformity of character as regards the eruptive condition, and is vesico-pustular in type. Mr. Wilson proposes *impetigo phlyctenodes* to designate the disease—a term which happily expresses the aspect of the eruption.

Clinical History.—The disease is seen amongst children of the lower orders especially, probably in great measure because the opportunities for contagion are more numerous, but occurs also in those who have all the advantages of social position and good hygiene. It is ushered in occasionally by smart, generally slight, fever; or the child looks ill, pale, languid, and is said to have been "in a burning heat," or to have had "cold chills."

There is clearly an affection of the system at large before the occurrence of any eruption, which in the majority of cases appears first of all on the face, or top or back of the head, in the form of "little

watery heads" (vesicles), that enlarge into flat bullæ. Sometimes the hands are attacked at the outset, and look as if burnt here and there; phlyctenæ may also arise out of and around the remnants of vaccinia, or about cuts or bruises. The disease then extends to other parts, the back of the neck, buttocks, feet, &c. The vesicles are always isolated. In five or six days the bullæ may reach the size of a sixpence or shilling, unless ruptured, and then it is flat and depressed in the centre, the contents being opaque. The secretion consists of lymph-like fluid, granular cells, and subsequently pus-cells.

Scabs commence to form a few days after the appearance of the disease. They are characteristic of the disease, varying in size from that of a split pea to a shilling; they are flat, straw-coloured, dry, and granular-looking, and appear as if "stuck on" to the part; they present, as a rule, no inflammatory areola around their circumference, though this is the case in severer instances of the disease. If removed, beneath are observed little sores, more or less filled in by gummy-like secretion, or a little pellet of aplastic lymph. The disease may be spread from spot to spot by direct inoculation with this secretion in the act of scratching. The crop of vesicles is to some extent successive, though the majority of the places "come out" in the first week or so. In some instances the disease resembles vaccinia very closely. There is always a uniformity about it; it always commences by vesicles; there are no papules present at the height of the disease. On the face the spots may be confluent, and then the disease resembles eczema impetiginodes; but the patches are made up of the elements described above. On the head the disease consists of circular, mostly isolated, flat-scabbed spots about the top and back of the head, the hair being matted by the crusts. There are usually no pediculi and no offensive smell.

The mucous membranes of the eye and the nose are often implicated; then inflammation is produced by the development of little ulcers, that take their origin in the development apparently of vesico-pustules, identical with those seen on the surface of the skin. The eye may look as though affected by slight purulent ophthalmia, but soon recovers itself. All the children in a house may be attacked at one time, or consecutively, by the disease, and in such a way as to impress upon friends and attendants the idea of its being contagious, and under these circumstances it may be regarded as scabies. It may complicate eczema, scabies, and other affections.

Diagnostic Features.—Its apparently epidemic character in many cases; its attacking children; the antecedent febrile condition; the origin from isolated vesicles, which tend to enlarge into blebs, and to become pustular, the bleb having a depressed centre, and, it may be, a well-defined, slightly raised, rounded edge; the *isolation* of the spots, the *uniform* character of the eruption, and its general and scattered condition; its seat, and frequent commencement about the face or head; the circular, flat, granular, yellow crusts; its contagious nature and inoculability; its frequently following in the wake of vaccination; the implication of the mucous membrane of the eye; the absence of pain, and especially troublesome itching at night.

It may be confounded with *eczema;* but the history is altogether different, and the isolation, the large scabbed patch, the characters of

the crusts, and the facility of cure, at once distinguish it. *Pemphigus:* But here the blebs are more persistent, oval, and distended; the contents are watery and acid; it is non-contagious; it does not occur especially on the face or the head; it is less inflammatory, and it wants the characteristic scabs. *Ecthyma:* This is primarily a pustular disease, seen also in adults; there is more induration and swelling; a good deal of pain; it is non-contagious; the scabs are heaped up and dark. *Pustular scabies:* This is the disease with which it is mostly confounded. It must be remembered that the two diseases may co-exist. Both *in children* attack the buttocks especially; both may be about the hands and feet; but the distinctions are really very clear. In scabies there is no febrile condition; the eruption is *multiform.* If there be ecthymatous pustules, like impetigo contagiosa, they are covered by dark thick crusts; there are plenty of characteristic vesicles, with cuniculi, and papules. If the impetigo contagiosa begins about the buttocks, it appears presently on the face or the head, or both. There is not the irritation of scabies, so bad at night, nor the effects of scratchings about the body; the bullous origin of the disease is distinct, and the peculiar scabs are characteristic. The hands are often not much affected in scabies in the child, but even impetigo contagiosa may attack the hands and feet markedly; still there is no *multiform* eruption. Inoculation will settle the point in twenty-four hours if we cannot find an acarus. We must not be misled into the idea that scabies exists because several children in the same house have a certain disease, and have apparently caught it the one from the other—a rule adopted by very many.

When a correct diagnosis is made, the treatment is easy. *The natural course of the disease is a short and definite one.* The disease certainly occurs in badly-hygiened subjects, and, therefore, tonics may be given. The secretion is a most active element (per inoculation self-practised by the patient) in transmitting the disease to different parts of the same subject or to others; and this ensures perpetuation and chronicity. And therefore we should destroy the secretion, and then alter the behaviour of the surface that yields it. Astringents and antiseptics avail; but the best is a little ammonio-chloride of mercury ointment—five grains to the ounce. The scabs should be removed, and the ointment applied to the secreting surface. The disease is supposed to be due to the contact of those attacked with non-specific unhealthy pus; but there are many reasons against this, which cannot be noticed here. It is a very definite disease, dependent upon a particular poison, easy to treat, but little known.

Art. 73.—*Treatment of Pruritus.*

(*British Medical Journal*, July 27, 1867.)

Solutions of alum, borax, carbonate of soda, potash, corrosive sublimate, lime-water, and the alkaline hypochlorites; are recommended as remedies. Trousseau favoured weak solutions (half a grain to the

ounce) of bichloride of mercury. Dr. de Savignac (*Bulletin de Thérapeutique*) advises laurel-water 15 grammes, carbonate of potash 30 grammes, water 500 grammes, as a lotion.

Art. 74.—*Case of Hæmorrhagic Diathesis.*

Under the care of Dr. Garrod.

(*British Medical Journal*, July 6, 1867.)

In the following case it will be seen that frequent, copious, and oft-recurring epistaxis was the symptom which alarmed the child's mother. The hereditary character of the affection, or at least the unfortunate predisposition to it which runs in certain families, is also well-marked in this case. Although isolated instances of this curious complaint are sometimes met with, it is as a rule a family affection; and in Germany, where it seems to occur more frequently than elsewhere, Dr. Lange, of Potsdam (*Statistiche Untersuchungen über die Bluterkrankheit*, Oppenheim's *Journal*, No. 45, Hamburg, 1850), states that 130 individuals, belonging to 53 families, were affected with it, thus showing the tendency to *Hæmophilie* to run in families. Although in some respects allied to purpura hæmorrhagica, this affection seems to be on the whole distinct from it, and differs from purpura in being never attended with any febrile reaction. From scurvy, it is easily distinguished by the absence of sponginess of the gums and pains in the calves, and other nervous symptoms.

W. Bilton, aged six, one of twelve children, of whom only three are living, is a pale, ill-nourished child, although his mother declares that he has always been fed pretty well, and had a fair allowance of meat and vegetables. He had the small-pox when two years old. He was never vaccinated, the medical officer refusing to do it, on account of the mother's statement that seven of her children died from exhaustion induced by frequent hæmorrhages from the nose and mouth.

When the child was about a month old, there began to appear about his body a number of spots which looked like bruises. He has never been quite free from such spots since. Of late, he has become subject to epistaxis, and his mouth has bled, without any cause to assign for the occurrence. The hæmorrhage for the last week or two recurred almost every night, and the mother produced some of his nightshirts which were considerably stained with blood. As these symptoms were exactly those which had been presented by the seven children whom she had lost, she became alarmed, and brought the child to King's College Hospital, where he was admitted on June 11th, under Dr. Garrod's care. When he was first seen he had several patches on various parts of his body, and the mother's statement that when they first made their appearance they looked like ordinary bruises, which afterwards became hard, lumpy, changing colour from blue to green, or yellow, and then gradually dying away, was subsequently substantiated. The child complained of no pain, no itching in the ecchymotic parts. There was one

patch on his left elbow which was beginning to fade; there were three or four on the right leg, and another above the left patella, in which the changes of colour were very evident.

The child was immediately put upon full diet, and was ordered to take four grains of sulphate of iron, dissolved by means of some dilute sulphuric acid in some syrup and water, three times a day. A week after his admission into the hospital, no fresh spots had made their appearance, and he had not bled from the nose or mouth. The left shoulder was pinched moderately hard, but no bruise showed itself by the next day.

Since then, a few fresh ecchymoses have appeared, about the fold of the groin, and behind a little above the gluteal region, and also along the inner aspect of the right arm. No suspicion of deceit can attach to the child; and the cessation of the epistaxis and of the bleeding from the mucous membrane of the mouth can only be explained by the improvement in the condition of the blood, brought about by the generous diet and the administration of full doses of sulphate of iron.

Art. 75.—*Notes on Dracunculus.**

By Edward Waring, M.D.

(*Medical Times and Gazette*, August 24, 1867.)

Dracunculus, or Guinea worm, exists endemically in tropical regions between 23° or 24° N. lat. and 12° S. lat. It is therefore essentially a tropical disease, although isolated cases may occur, in this or any other climate, in individuals within a twelvemonth of their leaving an affected district. No age, class, or caste in infected regions is exempt from it, though, as a general rule, it is more common amongst the dark races than amongst Europeans in India. In the great majority of cases it makes its exit from the system by the lower extremities. Previous to its extrusion, it not unfrequently manifests considerable migratory powers, its course being in some instances traceable under the integument. The usual number in an individual is one, but in districts in which the disease is intensely endemic a much larger number may appear, fifteen being the largest number in any one individual amongst the cases under review. There is little liability to relapse unless the patient remain in or remove to an infected locality. The average length of the worm is about twenty-four inches, ranging between twelve and sixty inches. It prevails at various seasons in different parts of India; and though season *per se* seems to exercise little influence, it invariably manifests itself in its greatest intensity at the same period of the year in any one given locality. Isolated cases may occur at any season. A popular opinion that it prevails most in a year subsequent to one in which there has been deficient rainfall is not borne out by figures. An

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* Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, June 25th 1867.

intimate connexion exists between the character of the soil and the prevalence of the worm. It is most common in localities where rocks of the secondary trap series abound, and least so in those where laterite exists ; it is also rare in alluvial soils. It may be introduced into localities previously exempt, provided that certain geological features exist. The period of incubation in the human frame has been shown to be about twelve months. It does not necessarily follow that because a Guinea worm exists in the system, its extrusion is essential ; it may become cretified and remain in the system without inconvenience. The mode by which the entozoon gains entrance into the system, whether through the skin or through the medium of the stomach by the use of drinking water, is as yet undetermined. It has been suggested that they enter through the sudorific ducts. This, like the two preceding theories, must be regarded as "Not proven." Amongst the alleged causes of Guinea worm may be mentioned the use of stagnant or well water, poverty of diet, contagion, and hereditary predisposition, but all on insufficient grounds. Its appearance, rarely with any premonitory symptoms, is heralded by a small bulla or vesicle (generally in the neighbourhood of the ankle) which rapidly enlarges till it has attained the size of a walnut; it contains at first a clear, limpid fluid, which after a few days becomes red and turbid. On being opened, an abraded or ulcerated surface presents itself, about the centre of which a small white spot, the head of the worm, is seen protruding. This is to be gently seized, and extraction commenced. This is the course of the worm under favourable circumstances. Occasionally, from some extraneous cause, as leaping, a fall, &c., the coats of the worm become lacerated. This accident is followed by local inflammation and suppuration, the constitutional irritation is often great, and the pain severe. On opening the resulting abscesses, portions of the worm, and occasionally the entire worm, will be found in the pus; in the former case there is generally found on the floor of the abscess a fistulous opening, at which the extremity of the remaining portion of the worm presents itself, which should be at once secured. The treatment of ordinary uncomplicated cases is very simple. It consists in opening the bulla within thirty-six or forty-eight hours after its appearance, seizing with a pair of fine forceps the protruding head of the worm, and making gentle traction until as much has been extracted as possible without resistance on the part of the worm. The portion thus withdrawn should be twisted round a small piece of quill or other hard body, and secured *in situ* by adhesive plaster, the whole to be covered with a soft poultice, or, better still, with water dressing. This process to be repeated daily till the whole worm is extracted, which it generally is in twelve or fourteen days. It greatly assists the process to make the traction under water in place of the open air. Another plan of treatment consists in cutting down on the worm, passing a piece of thread or tape under one of the convolutions, and extracting gently the whole worm at once. To do this, it is essential that the worm should be immediately under the integument, which is not ordinarily the case. On the whole, the former mode of procedure is preferable. Under any treatment the worm sometimes breaks. This accident is followed by severe constitutional excitement and local inflammation, terminating in suppuration.

Numerous local applications, including anæsthetics, have been employed, with the view of expediting the expulsion of the worm, but without manifest advantages.

Art. 76.—*On the Treatment of Psoriasis and Eczema by a Flesh Diet.*

By G. Passavont.

(*Arch. d. Heilkunde*, viii. 3, 1867; *Schmidt's Jahrbücher*, No. 8, 1867.)

Psoriasis is well known to be an affection that frequently defies every plan of treatment, and one in which the attendant evils are merely alleviated in the course of many years. Dr. Passavont himself suffered from this affection of the skin for nearly twenty-five years, and tried during the whole of that time all the means commended as remedies, without obtaining more than an alleviation of the affliction, which was at times hardly tolerable. He was at last completely freed from the disease by confining himself exclusively or almost exclusively to a meat diet. The history of his own case, and one also of eczema squamosum, cured in like manner, are reported as follows:—

Dr. Passavont observed the first signs of his psoriasis in his twentieth year. The disease appeared at the back of both elbows, in the form of patches, which at first were small, and later of the size of a kreuzer piece, and covered by white scales. These patches remained in the same condition for fifteen years, when they commenced to increase in breadth, and were surrounded by small marks of the size of a pin's head, and covered by scales. Some of these soon died away, but others increased in size, and united with neighbouring spots of a similar character. About the same time there was upon both knees an eruption of small spots, covered with white scales, which remained unchanged for a long time. In the course of the year these eruptions extended, but appeared much earlier on the extension than on the flexion aspect of the extremities. The skin affection soon commenced to present itself on the hairy scalp, forehead, back, and scrotum. The scaly patches were painful, and caused much itching at night. After a warm bath and violent rubbing, they were very red, elevated, bled slightly, and exuded clear serum. The disease progressed from year to year with alternate improvement and deterioration. The patches, by violent rubbing and scratching, were marked by fissures and clefts, and became very painful. The legs also were swollen.

In the autumn of 1865 Dr. Passavont had a severe attack of bronchial catarrh, accompanied by profuse expectoration, and he suffered a short time afterwards from catarrh of the mucous membrane of the nose. A diet exclusively of meat was now tried, and in the course of a few weeks all appearances of disease of the skin were removed, the epidermis became soft, and the secretion of the sweat was reestablished. Next followed gradual amelioration of the bronchial affection, and at the same time of the nasal catarrh. This plan of treatment always influenced the occasional attacks of psoriasis which afterwards came on. Wine, beer, spirits,

coffee, tea, very salt food, and also tobacco and snuff could not be indulged in, as they always caused increased formation of epidermic scales, and a weeping and redness of the skin.

Dr. Passavont will not maintain that this treatment is likely to be equally beneficial for all patients. He thinks that his own psoriasis was probably owing to his having since youth lived upon vegetables, although others perhaps may live upon a diet of this kind for a long time without becoming affected by it. The fact, however, of a rapid cure of a skin disease that has persisted for twenty-five years, by means of an exclusive meat diet, is a very interesting one.

Eczema Squamosum Cured by a Meat Diet.—J. B., aged forty-nine years, a merchant, had when a child been afflicted with rickets, and did not learn to run until his fifth year. When twenty years old was paralyzed in the legs, and for the cure of this spent two summers at Wiesbaden. The precise cause of the paralysis was not made-out; it soon disappeared. The patient at this time commenced to suffer from hæmorrhoids, which caused a prolapse of the rectum and frequent bleedings, by which he was much reduced. The prolapsus was removed by the écraseur, and the operation was followed by a speedy cure, in spite of severe hæmorrhage. Six years after this the rectum again came down, but the affection was this time cured by the passing of a wax bougie besmeared with the following ointment:—Nitrate of silver, ℥ij; tannic acid, ℥ij; extract of belladonna, ℥ij; extract of opium, ℥ss; hog's lard, ℧ss.

In the month of January, 1866, a scaly and slightly moist eruption appeared at the back of the head, and at the same time scales and crusts were formed upon the hairy scalp and ear, after the removal of which a yellow discharge trickled away. Zinc ointment was applied without effect, and in the spring of the year the disease extended to the whole of the head and to the breast. The treatment of a hydropathic establishment was attended with no beneficial results. The eruption increased, and the hairy parts of the head, the ears, portions of the face, the breast, surface of abdomen and genitals became reddened, slightly swollen, and either secreted a profuse yellowish discharge or were covered at the parts least affected by epidermic scales. Dr. Passavont advised the patient to take long walks daily, to reside in a hilly district, to rub into the affected skin sweet oil or cold cream, and to apply wet compresses. The skin disease was much better after two weeks of this treatment, but rapidly returned when the patient returned to his occupation. The meat diet was now tried. At first the patient kept to it for eight days only, but he soon discovered the evident unfavourable influence of vegetable food upon his disease, and then he carried out M. Passavont's advice strictly and energetically. At the end of six weeks the disease had almost entirely disappeared, and the patient has had but one relapse, which was caused by his taking an increased amount of bread.

Psoriasis is manifestly a disease depending upon faulty nutrition; and as deficient food may give rise to an excessive secretion of epidermic scales in one individual, so may it, according to Dr. Passavont, cause an increased formation of the epithelium of mucous membranes in another. Bronchitis of unusual severity and duration came on in

the author and also in a woman who was under his care for psoriasis. It is also supposed by Passavont that faulty nutrition may lead to an excessive secretion of epithelium from the mucous membranes of the stomach, and be the cause of mucous vomiting. All this, however, still remains a matter of supposition, until the changes produced in nutrition by an excessive vegetable diet are better known. Individual peculiarities certainly play an important part, and influence not only the seat, but the form also of the affection.

Art. 77.—*Case of Lupus Exedens: Mr. Bruce's Gas-Cautery.*

Under the care of Dr. Hillier.

(*British Medical Journal*, June 22, 1867.)

John M., aged seventeen, first came under Dr. Hillier's care in the beginning of November, 1864. He then stated that his father and mother were living and well, and that he had brothers and sisters who were all healthy and living. His own health had always been and was at the time good. About a twelvemonth previous to his applying at University College Hospital, he had noticed a small pimple which made its appearance at the junction of the right ala of the nose and cheek, and which gradually increased in size till it became as large as a farthing, when it began to ulcerate at its right margin. The ulceration spread till it involved the whole of the lower part of the lower lip corresponding to it in breadth. There was a little thick, yellow discharge coming from it; he had no pain, and never had any. When he was first seen by Dr. Hillier, he had some slight enlargement of the glands of the neck, but they were not tender; his skin was smooth, and he had no eruption: the only part affected was the nose and upper lip. On the lower part of the nose, occupying the whole of the right ala and part of the left, (but not the septum,) and also that part of the upper lip corresponding to the nose in breadth, there was a thick crust, irregular in outline, dry, and at the upper part very adherent. The crust was thin on the lip, and exuded pus on pressure, but it was one-third of an inch thick on the nose, and overhung the surface on which it was seated, blocking up partially the entrance to the nares. The patient could not blow his nose. On detaching part of it on the left side of the lip, the subjacent surface bled, and was seen to be covered with coarse granulations.

Since November, 1864, to the present date, June, 1867, the patient has been under Dr. Hillier's care. He had poultices applied over the part at first, and took iodide of iron and cod-liver oil; iodine paint was applied two or three times a day for a week without any appreciable good result being obtained, when an ointment made with equal parts of biniodide of mercury and lard was substituted. This having the effect of destroying the granulations and depressing the surface, the iodine paint was again had recourse to. Subsequently, when the disease

showed a tendency to spread downwards, potassa fusa was applied to the margin of the ulcerating surface.

On January 14th, while the patient was under the influence of chloroform, the acid nitrate of zinc (nitrate of zinc, twenty-five grains, strong nitric acid, a drachm) was applied to the whole surface by Mr. Marshall. Great pain was complained of on the following day, which was relieved by the internal administration of opium. In a few days, the ulcerated surface cicatrised partially only, and the remainder was covered with granulations bathed in pus.

Since then, the diseased parts have been cauterized several times, and the operation has always been followed by some amendment. Last week, cauterization was again had recourse to, and on this occasion an ingenious cautery, lately suggested by Mr. Bruce, was employed. It consists of a more or less conical piece of platinum, of variable size, which is heated by a jet of ordinary coal gas, the heat of which is intensified by means of a blow-pipe. The gas is contained in an india-rubber ball, from which proceeds a tube of the same material terminating in one made of platinum, along which the blow-pipe is placed. By means of a second india-rubber tube affixed to the blow-pipe, the operator can from a distance blow into the jet of burning gas, and thus considerably increase its intensity. This gas-cautery recommends itself by its portability, although it seems to lose its heat pretty quickly, and to be extinguished by the blood poured out by the cauterized surfaces.

The day after the operation, the patient complained of no pain whatever, and the aspect of the diseased part was more favourable than it ever was before. As regards the purely medical treatment, the patient has for some time past been taking ten minims of Fowler's solution three times a day, and three grains of calomel every other night.

Art. 78.—*Report on Syphilization.*

(*Medical Times and Gazette*, June 15, 1867.)

At the meeting of the Medico-Chirurgical Society, on Tuesday, the 11th June, a paper of no ordinary importance was read by Mr. Gascoyen, being a report by himself, in conjunction with Mr. J. R. Lane, on the cases wherein syphilization had been tried in this country. The treatment of some of the cases had been begun by Dr. Boeck, but was continued by the above-named gentlemen, and in some instances extended over a considerable period. But the conclusions were the most important part of the communication, and with regard to these the authors differed somewhat, Mr. Gascoyen being inclined to think that the process of syphilization had no influence on the eradication of the disease, whilst Mr. Lane was of opinion that it aided somewhat in getting rid of the disease, whilst admitting that the rest, good food, and regular hours of hospital life were the prime agents in producing a cure. Practically they were perfectly at one, both holding that it was altogether inadmissible as a mode of treatment, the delay, the pain, the

annoyance far more than counterbalancing any good, if indeed there were any, produced by it. This decision was received, by an unusually large meeting, with great applause.

Art. 79.—*Cases of Syphilitic Alopecia treated with Mr. H. Lee's Mercurial Vapour-Bath.*

By J. Balfour Cockburn, M.D., Surgeon Royal Engineers.

(*The Lancet*, June 22, 1867.)

In September, 1865, a gentleman, aged thirty-two, came under Dr. Cockburn's care with three small, circular, superficial sores on the inner surface of the prepuce, which he stated had appeared fourteen days after a suspicious connexion. No induration existed, but there was some slight irritation of the glands in both groins. He recommended a careful and prolonged mercurial course (but the patient would not consent), with rest and quiet, a few Plummer's pills, and black lotion. In ten days the sores had quite healed, and all glandular irritation had disappeared.

"Six weeks after this," Dr. Cockburn says, "early in November, this gentleman's wife consulted me for an eruption of a very suspicious character affecting the whole of the face. On further examination, I found the neck and back covered with syphilitic roseola. This lady had been absent for some time, and had returned to her husband four days after I had last examined him and declared him well, so far as outward symptoms on the genital organs were concerned. There existed also in this patient some irritation of the fauces. The uterine functions were normal, and she was not pregnant. The next day the husband showed me his hands, both of which I found affected with syphilitic psoriasis. Under five-grain doses of the iodide of potassium the eruption gradually faded, and in five weeks both my patients left me for a short trip to Brighton. They were absent three weeks, and during that period they neglected themselves and took no medicine, though I had strongly recommended the continuance of the potash. On their return to my care the change in their appearance was most remarkable. The gentleman was almost completely bald, a few long hairs only straggling across his head; his whiskers, eyebrows, and eyelashes were gone, and his moustache was represented by a few soft bristles. He had previously been remarkably hirsute. His countenance also was changed; from being fresh-coloured and ruddy, he had now a sallow, wrinkled, and aged appearance. He stated that the decadence of his hair had been sudden and rapid, and unaccompanied by any local irritation or annoyance. All the eruption had gone, but several aphthous spots about the tongue were troublesome.

The condition of the lady was, if possible, more distressing. Not a single eyelash or hair of her eyebrows was left, all the hair had fallen from the temples, and the parting in the centre was more than two inches wide; her back hair had almost entirely disappeared. Like her

husband, a sew aphthous spots on the tongue were the only other special symptoms manifest. The skin of this lady had also a sallow, wrinkled appearance. It is worthy of notice that the hair on the pubes had sensibly diminished in the man, but not in the woman, and the hair in the axillæ of both had almost completely disappeared.

Both these patients were now placed under a course of Lee's mercurial vapour-bath, with five grains of chlorate of potash three times a day, and an ointment made of equal parts of benzoated lard and olive oil was directed to be applied to the scalp three times a week. This last was ordered more as a placebo than from any regard for its curative powers. This treatment was steadily maintained for ten weeks, and with the most unqualified success. It is now upwards of a year since the last bath and last dose of medicine were taken, and both patients are in excellent health, and with as much hair on their heads as they ever possessed.

"In January, 1866, I was asked by a friend to visit a young person who had recently arrived at his house on a visit, and who was supposed to be suffering from some scrofulous affection. I found the scrofula, on examination, to be nothing less than several syphilitic rupial sores. Both my friend and his wife had been unremitting in their attention to the invalid, and the lady informed me that on more than one occasion, after dressing the sores herself, she had felt faint and nauseated. She also stated that once or twice, the patient being sleepless and irritable, she had laid down on her bed beside her. Without mentioning my reason, I at once interdicted all but absolutely necessary communication with the invalid, and in a few days I recommended, and eventually procured, her entire removal from the house. These precautions proved too late. Seven weeks afterwards I found my friend and his wife, who, I may here state, were aged respectively thirty-seven and thirty-four, suffering from sore throat, with slight ulceration of the anterior pillars of the fauces, and also complaining that their hair was falling off in large quantities. I ordered at once alum gargles and five-grain doses of iodide of potassium, but with little benefit, for in ten days both lady and gentleman were almost completely bald, with loss of eyebrows, eyelashes, whiskers, &c. In this instance also the loss of hair from the pubes was greatly more marked in the man; in both the hair had fallen from the axillæ. Both these patients presented the same sallow, wrinkled, and aged appearance noticed in the first two cases.

"I now placed both patients under a course of mercurial vapour-baths, omitting all other treatment. I continued this plan for ten weeks, with the most satisfactory results. It is nearly a year since all treatment was suspended. Both patients are perfectly well, and rejoicing in a splendid crop of hair on both their heads."

Art. 80.—*On the Difficulties in the Diagnosis of Skin Diseases: an obscure Case of long-standing Gangrenous Ulceration of a Syphilitic nature, complicated by Sycosis.*

By M. Guibout.

(*Gazette Hebdomadaire*, No. 16, 1867.)

M. Guibout, in a paper upon the causes of the difficulties of diagnosing diseases of the skin, read before the Medical Society of the Hospitals, Paris, made the following remarks:—

The causes are due to,—1st. The stage in which the skin diseases are first observed. 2nd. The length of time for which they have lasted. 3rd. Those complications which might be called *natural;* several maladies appearing on the skin simultaneously may mask each other to such an extent that it is almost impossible to recognise any one of them. 4th. Lastly, the *artificial* complications, produced in most instances by empirical, rough, or misapplied applications, which change the original appearance of the lesion.

The following case is a very remarkable instance of the simultaneous existence of two skin diseases differing in their nature, and both marked by the ravages produced by bad treatment.

M. X., aged fifty years, had suffered for between eight and ten years from an eruption on the skin of the lower lip. During the whole of this time, varied and most irrational plans of treatment had been tried. The parts were first cauterized with nitric acid, and afterwards, for some months, with pure phrenic acid; after each cauterization a slough was formed and thrown off. Besides the excessive pain caused by this treatment, the disease, instead of being arrested, steadily increased.

The following was the state of the patient when he was seen for the first time by M. Guibout. The lower lip down as far as the chin was the seat of an extensive violet-coloured swelling, in the centre of which was a large ulcer with jagged edges, and its surface covered with inflamed and red granulations. Spread around this ulcer on every side were irregular, embossed, tense, violet-coloured and painful patches. The patient was in a state of debility, owing to the immoderate use of iodide of potassium, which had caused severe gastric disturbance and a red eruption on the face, which contributed to render the aspect of the man hideous.

Poultices applied to the lip, and opiates in bitter infusions, quickly modified the general and local state of the patient. At the end of a month, the ulcer was cicatrized and covered by thin and healthy skin. The swelling had diminished very much, and the true disease could at last be recognised.

The whole of the lower lip, with the exception of the seat of the ulcer, was covered by confluent tubercles, each with a point of suppuration at the summit, and traversed by a hair of the beard. Slight traction was sufficient to bring away these hairs, the roots of which presented that peculiar alteration which is due to the presence of the tricophyton. The case was one of parasitic sycosis.

Epilation and the use of a parasiticide lotion cured the sycosis; but soon afterwards more tubercles made their appearance, which were isolated, rounded, hard, and presenting no marks of suppuration. In the centre of these, on the side opposite to that of the first one, a fresh ulcer was formed, of a round shape, with sharply-cut edges and with a black and gangrenous base. This was another manifestation of the original disease, which now appeared freed from artificial and parasitic complications which had masked its real character.

Both M. Guibout and M. Hardy were of opinion that this was a tertiary syphilitic eruption of the skin. Protiodide of mercury and iodide of potassium were prescribed, and at the end of three months the patient was completely cured.

This case shows how prejudicial faulty medication may be to the patient, by masking the true malady and preventing the application of a really curative plan of treatment. In addition, it presents an example of two very different diseases, one parasitic, the other constitutional, existing together, although manifesting themselves successively, and each yielding in its turn to a rational plan of treatment.

Art. 81.—*Case illustrating the Identity of Eczema and Lichen.*

By Dr. M'Call Anderson.

(*Practical Treatise upon Eczema*, 2nd edition.)

The following case shows that, under the influence of treatment, eczema lichenoïdes may assume all the characters of the typical dry lichen of authors:—

"Catherine B., aged fourteen, was admitted at the Dispensary for Skin Diseases, Glasgow, September 30, 1861, affected with eczema lichenoïdes of a year and a half's duration, occupying both popliteal spaces, and extending upwards for some way upon the posterior surfaces of the thighs. The patches were moist and distinctly papulated; considerable infiltration was detected; the itching was severe at times, and serous fluid exuded on scratching. There was an enlarged gland on the side of the neck. Cod-liver oil was prescribed internally; a solution of black soap was rubbed into the parts night and morning, and whenever the eruption was itchy; and the local cold douche was applied repeatedly. On October 10th, ten days after the commencement of the treatment, the serous exudation had ceased, and the eruption now presented all the characters of a typical lichen as described in dermatological works. The patches were dry, rough, papulated, and the natural furrows of the skin greatly exaggerated. The infiltration of the skin, and the itching, though moderated by the treatment, still continued.

SECT. III.—FORENSIC MEDICINE.

ART. 82.—*Poisoning from Croton Oil.*

(*The American Journal of the Medical Sciences*, and *British and Foreign Med.-Chir. Review*, July, 1867.)

Dr. Charles Shoyer relates a case of poisoning by croton oil. He had ordered as an embrocation three drachms of croton oil, with an ounce of olive oil. By an accident the oil was spilt over some pigeons and chickens which had been dressed for cooking, and were ready to be put to the fire. The birds having been thoroughly washed in several waters were thought fit to eat, and were prepared accordingly. Five persons in all partook of the meal—viz., the mother of the family, aged 54, and feeble; a young lady, 15; a girl, aged 9; and two young sons of 17 and 19. Dr. Shoyer was sent for about an hour after the meal, and found them suffering from great anxiety, and with burning in the mouth and throat. He prescribed an opiate—milk diet and quietude. The symptom manifested by all was purging, and in every case except one this symptom had passed off by the following day. In the case of the mother, after an interval of eighteen hours from the accident, she was again attacked with purging, and while at her work felt a burning in the throat and mouth; there were also some pustules to be seen in the mouth; she became faint and commenced to vomit; there were muscular tremors and great general prostration. The pulse was very feeble; there was slight tenderness of the abdomen, but none of the epigastrium; the tongue was white, and showed the impress of the teeth, the feet were cold, the skin was moist, the mind was clear. The vomiting continued an hour; the ejected matter was light and glairy, was not tinged with bile, and contained no food. During vomiting, and for two hours after, there was a constant tendency to faint, and a deathly indescribable feeling of prostration. The treatment consisted of application of flannels, wrung out of hot water, to the abdomen, a large sinapism to the epigastrium, and warmth to the feet. Ten drops of tincture of opium were given every half hour in whisky and water, and the fan was freely used. In four hours the patient was well, but very weak. Fifty-five hours after the accident she was up and about.

Dr. B. W. Richardson observes in the *British and Foreign Medico-Chirurgical Review:* "The symptoms in this case closely resemble those of a case recorded by Christison, except that in the latter death was the result. The mistake of Dr. Shoyer's patients in considering that frequent washing would remove the poison was natural enough, although so serious. When animal substance acted upon by croton oil is well washed, all trace of the oil seems to disappear; but the volatile acid substance on which the action of the poison depends, readily passes into the animal tissue and impregnates it."

Art. 83.—*On a Case of Bromine Poisoning.*

By Samuel P. Duffield, Ph.D.

(*Detroit Rev. of Med. and Pharm.*, *Amer. Journal Pharm.*, and *Pharmaceutical Journal*, August, 1867.)

"On the 10th of March I ordered C.W., an employé in the laboratory, to prepare some bromide of ammonium. The process given was that of Wittstein, which consists in first forming a solution of bromide of iron, under water in a large glass balloon by the reaction of bromine upon iron turnings, and then decomposing the bromide of iron by liquor ammoniæ, filtering, and evaporating to crystallization. Notwithstanding having cautioned him about inhaling the vapour, he carelessly poured rapidly into the large glass three pounds of bromine, which evolved vapour to quite a dangerous extent, and which he inhaled.

"I was first aware of the fact by one of the workmen running to me and saying, 'Carl is dying.' On coming to the patient I found him perfectly asphyxiated, not able to give me any intelligence as to what was the cause, but on entering the furnace room I perceived the fumes of bromine and, of course, realized what the true state of affairs was.

"The corrosive action of the bromine was such that the glottis had closed with a spasm, and did not seem to be willing to yield. I tried ammonia vapour, but as he could not breathe, it was of no avail. I drew out the tongue, and the air would fairly whistle through the glottis, and then the spasm would shut it down tight again. For a few seconds I was unable to devise a plan, but finally based my plan upon the chemical fact that bromine, like chlorine, acts by its absorption of water from the tissues, and I thought if I could again moisten the bronchi that I might save him. Having brought him near to a flexible steam-pipe we use for boiling, I made them hold the mouth open, and threw the steam from some distance, so as not to burn him, into his mouth and over his face. It had the effect. The spasm relaxed, and he was subsequently treated with ammonia vapour, and sent home to keep company with the tea-kettle. He assured me that until twelve o'clock that night he did not dare leave the tea-kettle for two minutes. The subsequent inflammatory action was easily controlled. What I wish to particularly call the attention of the profession to, is the great value of steam vapour in all cases poisoned by corrosive *vapours*. Ammonia can also be used, by saturating a handkerchief with a weak solution, and allowing the steam to blow through it. On referring, after the danger of the case was over, to works on the subject, I find neither Beck nor Taylor speak of bromine. While they recognise the compounds of this halogen with others, they do not speak of its peculiar poisonous effect or its mode of treatment. Of course, when a corrosive poison has been swallowed, the treatment is entirely different."

The following note is appended by Professor Maisch :—

"A direct antidote to the poisonous effects of the inhalation of chlorine is sulphuretted hydrogen, which ought to answer in like cases of bromine poisoning; the halogen combining instantly with the hydrogen, liberates sulphur. We have tried it ourselves after accidentally inhaling chlorine, and obtained immediate relief."

Art. 84.—*On the Action of Sulphocyanide of Potassium.*

By MM. Dubrueil and Legros.

(*Gazette des Hôpitaux*, No. 74, 1867.)

MM. Dubrueil and Legros have made numerous experiments upon the action of sulphocyanide of potassium. They were not able to prove that this salt produces in the blood corpuscles and muscular tissue those changes which had been described by Ollivier and Bergeron. They have always found the muscular tissue intact. In addition to the paralysis pointed out by M. Claude Bernard, they noticed that the muscles contract in a tetanic manner under the influence of the sulphocyanide as after the employment of strychnine.

The following are the conclusions of these observers, as detailed in a paper presented to the Academy of Sciences:—

1. Sulphocyanide of potassium acts locally and by imbibition on the muscles, and paralyses them. It deprives them of the power of contracting under the influence both of the will and of galvanic agency. It does not cause them to become more granular or more rapidly so that they would become normally after death. Applied directly to the encephalon it produces tetanic affections, that is to say, tonic alternating with atonic convulsions. These phenomena occur and follow paralysis, in cases where the salt has been injected subcutaneously, and seem to be due to the action which this salt, mixed with the circulating stream, exercises upon the nervous centres. Introduced by the alimentary passages, the sulphocyanide produces at first symptoms of general paralysis, and afterwards tetanic phenomena, in the course of which death occurs.

2. Tracings of the muscular contractions of the limbs of frogs were taken by the instrument of M. Marcy, after a solution of the sulphocyanide had been injected under the skin of the extremities, and it was found that the extent of the contractions followed a rapidly decreasing course. In frogs whose encephalon had been exposed and sprinkled with a few drops of the solution, the tracings were those of tetanic contractions.

3. In all the animals killed by the sulphocyanide of potassium, microscopical examinations were made of the striated muscles, and they were observed to be *more granular than they generally are* after death.

Art. 85.—*On the Poisonous Properties of certain Compounds of Cadmium.*

By Dr. Wilhelm Marmé.

(*Zeitschrift für rationelle Medicin*, xxix., H. 1, 1867; *Schmidt's Jahrbücher*, No. 3, 1867.)

The following are the principal results of Dr. Marmé's researches on the toxic properties of the compounds of cadmium.

1. The sulphuret of cadmium is not poisonous, as it was considered to be by Hasselt. During one week many drachms were mixed with the food of animals without producing the least evil effect. The insolubility of the salt in water, in dilute acids, in alkalies, and oil causes its use as a pigment to be free from danger.

2. The compounds of cadmium, which are soluble in water and dilute acids at the normal temperature of the body, or are convertible into soluble salts, are all poisonous. Experiments were made with the following preparations:—Oxide of cadmium, oxyhydrate of cadmium, chloride of cadmium, potassio-chloride of cadmium, ammonio-chloride of cadmium, all the corresponding compounds of bromine and iodine with cadmium, the sulphates, nitrates, carbonates, acetates, tartrates, and lactates of the oxide of cadmium.

3. The local action of these poisonous compounds always produces irritation, which is more or less considerable, according to the quantity. When introduced into the stomach, these substances produce in small doses vomiting, and in large quantities repeated evacuations both upwards and downwards, and also gastro-enteritis from the simple catarrhal up to the ulcerative form. Perforation was never met with, even after the use of concentrated solutions of the chloride of cadmium. Hypodermic applications produce, according to the amount and degree of concentration of the injected solutions, either simple circumscribed hyperæmia or an exudation process which may end in abundant suppuration.

4. The remote action of these compounds produces symptoms similar to those observed by Soret in men poisoned by carbonate of cadmium; these were: vertigo, vomiting, diarrhœa, slowness of the circulation and respiration, loss of strength, loss of consciousness, and cramp. The last symptoms are sometimes followed in animals by death. In suckling animals, birds, and amphibia the heart's action generally outlasts the respirat on, although it may be for a short time only.

5. If quantities sufficiently large to be poisonous without causing death directly, be injected into the subcutaneous cellular tissue or in the bloodvessels, they excite an inflammatory irritation of the mucous membrane of the stomach and intestines, and frequently even hæmorrhage, erosion, and ulceration. The cadmium salts when injected in small quantities into the bloodvessels are fatal; 0·030 of a gramme is sufficient to kill a hound, 0·016 for a cat, from 0·010 to 0·020 for a small dog. Subcutaneous injections of double or thrice these quantities produce similar results. The introduction of from 0·30 to 0·60 of a gramme into the stomach of a small dog weighing between 1500 and 1800 grames will cause death. As hounds, cats, and pigeons quickly reject by vomiting a part of the poison, the fatal dose remains undetermined.

6. The subsequent injection of large quantities of a dilute solution of soda, or soda water, when employed early, completely arrests the poisonous action of the preparations of cadmium. In cases of acute poisoning the carbonates of the alkalies with white of egg act as the best antidotes.

7. The continued absorption of small doses of the soluble salts or oxyhydrates of cadmium cause chronic poisoning, which in animals is

characterized by disturbed digestion and emaciation, and ends in death. At the autopsy may be found gastro-enteritis more or less extensive, sometimes subpleural ecchymosis, and partial congestion of the lungs, and frequently fatty degeneration of the liver and cardiac muscular tissue, and diffuse inflammation of the kidneys.

8. The local operation is easily explained by the action of the cadmium salts upon the albuminates. The remote action, or the absorption of the cadmium salts essential to its production, can be accomplished the more readily, as the albumen precipitated by the preparations of cadmium is partly soluble in an excess of the precipitating agent, especially in a solution of a double salt, as the chloride of cadmium and sodium, and also in solutions of the alkaline chlorides. These albuminates of cadmium dissolved by an alkaline chloride, when injected into a vein, the subcutaneous areolar tissue, the peritoneal cavity, or the stomach, produce symptoms exactly resembling those described above. Upon what the remote action of cadmium depends, has still, however, to be determined. The constant change in the blood and its elements, and the same thing also in the nervous centres, prevent this process from being watched. Whether the known preparations, the chlorides of cadmium, combine with some of the elements of the body, and then play some part, remains for further researches to determine. The iodides of cadmium, and of potassium and cadmium, both seem, particularly when they are absorbed as such, to possess some slight affinities to many tissues of the body. Like all the preparations of cadmium they coagulate albuminates; the preparations of the chloride of cadmium do not, however, combine with any single element of the body.

9. The elimination of cadmium commences very soon after its introduction, and takes place with interruptions, chiefly if not exclusively, through the kidney.

Art. 86.—*Poisoning by Chloroform.*

(*British Medical Journal*, June 22, 1867.)

M. H. Senator has observed the following cadaveric lesions after poisonings by chloroform: cadaveric rigidity, fluidity, and dark colour of the blood, presence of air-bladders in the blood. These were present not only in the venous system, as Virchow believed, but also in the arteries. They are probably formed after death, and have been discovered in eleven out of forty-six cases. The heart is usually softened and empty. The smell of the chloroform was perceptible in four cases only out of forty-six.

Art. 87.—*Poisoning by Strychnine.*

(*New York Medical Record.*)

Dr. John Bartlett, formerly of Chicago, strongly recommends common salt as a curative of strychnine poisoning. He reports as many as twenty experiments on dogs, in which violent symptoms following large

doses of strychnia ceased after emesis, induced by drenching the animal with water holding in solution several handfuls of salt.

Art. 88.—*Ophthalmology in its Relation to Legal Medicine.*

By M. Fano.

(*Gazette des Hôpitaux*, No. 87, 1867.)

A cataract being presented, is it possible to determine whether it be traumatic or spontaneous?

The answer to this question is far from being an easy one. Many individuals attribute to a blow upon the eye or surrounding parts a cataract which already existed, and the existence of which was first noticed by them at the time they received the injury. The previous circumstance of a blow on the eye is not therefore sufficient to enable one to assert that the cataract is of a traumatic nature.

Traumatic cataracts are produced consecutively to wounds of the capsule of the lens by the injuring body. The opacity is caused by the imbibition of the aqueous humour by the crystalline substance. Spontaneous cataracts very rarely give rise to this rupture of the capsule. When, therefore, a laceration of the capsule of the lens and a hernia of the crystalline substance is made out in an individual affected with cataract attributed to external violence, the probabilities in favour of the traumatic nature of the cataract are very great. If at the same time a wound of the cornea or sclerotic exists, the probabilities are still much greater. The existence of a wound of the cornea or sclerotic is not, however, absolutely necessary for the existence of a traumatic cataract, because clinical experience demonstrates that this kind of cataract may be caused by a shaking of the eye, without any solution of continuity in its membranes.

Even in those cases which present the greatest probability, as in those just mentioned, it is impossible to pronounce decidedly, because in an eye affected with spontaneous cataract, a wounding body may lacerate the crystalline substance, and cause an escape of the substance of the lens which was opaque before the accident through the rent into the anterior chamber. The eye then presents the characters of a traumatic cataract, and yet the case may be one merely of wound of a lens affected with spontaneous cataract—a circumstance which may be a means of curing the patient.

To resume, it may be affirmed that no special pathognomonic characters exist which would enable the surgeon to recognise a traumatic cataract; probable characters do exist. A single circumstance allows one to decide the question: if the medical man consulted had made out that both eyes were sound, and if in the course of a few hours, or on the following day, he discovers a cataract with capsular lesion, then there will no longer be any possible doubt.

SECT. IV.—THERAPEUTICS.

ART. 89.—*The British and London Pharmacopœias compared. For the use of Prescribers.*

(*Pharmaceutical Journal*, August, 1867.)

All the important preparations of the London Pharmacopœia are now contained in the British Pharmacopœia, and, with very few exceptions, the composition and strength of the medicines remain unaltered. In a few instances, however, it has been found necessary to make some alterations, so as to establish uniformity, and to make the same medicines applicable in England, Scotland, and Ireland, as contemplated by the Legislature in providing for the publication of a British Pharmacopœia.

The following are the only material changes requiring the special attention of physicians who have been accustomed to prescribe from the London Pharmacopœia:—

ACETUM CANTHARIDIS.	Rather stronger than the L.P., but not so powerful as the Edin. and Dub. preparations.
ACIDUM PHOSPHORICUM DILUTUM.	Stronger than the L.P., in the proportion of 10 to 8·7.
DECOCTUM ALOES COMPOSITUM.	Rather stronger of aloes than L.P., but not so strong as in 1864. It now contains 4 grains of extract of aloes in a fluid ounce.
EMPLASTRUM BELLADONNÆ.	Made with an alcoholic extract of belladonna. Adheres to the skin without an adhesive margin.
LIQUOR ARSENICI HYDROCHLORICUS.	This is nearly three times the strength of *Liq. Arsenici Chloridi, Lond.*, being now made to correspond in strength with *Liquor Arsenicalis*. It contains ½ grain of arsenious acid in f℥j.
LIQUOR MORPHIÆ ACETATIS, and LIQUOR MORPHIÆ HYDROCHLORATIS.	Half the strength of L.P. They contain ½ grain of morphia salt in f ℥j.
PULVIS ANTIMONIALIS.	More active and more definite in composition than the *P. Antimonii Compositus, Lond.* It now consists of 1 part oxide of antimony and 2 parts phosphate of lime.
PULVIS CINNAMOMI COMPOSITUS.	Long pepper omitted, making the composition similar to *Pulv. Aromaticus, Edin.*
PULVIS CRETÆ AROMATICUS.	The dry ingredients of *Confectio Aromatica, Lond.*
SPIRITUS AMMONIÆ AROMATICUS.	Stronger in spirit, and about one-half stronger in ammonia, than L.P.
SPIRITUS JUNIPERI, „ LAVANDULÆ, „ MENTHÆ PIPERITÆ, „ MYRISTICÆ, „ ROSMARINI.	Stronger and more definite in strength than the L.P. preparations. They all contain 1 volume of essential oil in 50 volumes of the spirit.

Tinctura Aconiti. .	One-third the strength of L.P.
„ Belladonnæ.	About half the strength of L.P.
Vinum Opii	Rather weaker than L.P. It contains 1 oz. extract of opium in a pint.

Art. 90.—*The Report of the Scientific Committee appointed to Investigate the Physiological and Therapeutical Effects of the Hypodermic Method of Injection.*

(*Medical Times and Gazette*, August 10, 1867.)

The conclusions which the Committee deduced from their investigations were—1. That, as a general rule, only clear neutral solutions of drugs should be injected, for such solutions rarely produce local irritation. 2. That, whether drugs be injected under the skin, or administered by the mouth or rectum, their chief physiological and therapeutical effects are the same in kind, though varying in degree. 3. But that symptoms are observed to follow the subcutaneous injection of some drugs which are absent when they are administered by the other methods, and, on the other hand, certain unpleasant symptoms which are apt to follow the introduction of the drugs by the mouth and rectum are not usually experienced when such drugs are injected under the skin. 4. That, as a general rule, to which, however, there may be exceptions, clear neutral solutions of drugs introduced subcutaneously are more rapidly absorbed and more intense in their effects than when introduced by the rectum or the mouth. 5. That no difference has been observed in the effects of a drug subcutaneously injected, whether it be introduced near to, or at a distance from, the part affected. 6. That the advantages to be derived from this method of introducing drugs are—(*a*) rapidity of action; (*b*) intensity of effect; (*c*) economy of material; (*d*) certainty of action; (*e*) facility of introduction in certain cases; (*f*) with some drugs the avoidance of unpleasant symptoms. This plan, therefore, is most likely to be adopted where very rapid and decided effects are required from drugs which are operative in small doses.

The agents employed by the Committee were aconitine, morphine, atropine, strychnine, quinine, conia, podophyllin, iodide of potassium, Battley's sedative, prussic acid, colocynth, aloes, and the Calabar bean.

Art. 91.—*Hypodermic Injections.*

(*Lancet*, July 6, 1867.)

M. Arnold, a military surgeon at Constantia (Algeria), lately published several cases of ague cured by hypodermic injections of sulphate of quinine. These cases have been commented upon by Prof. Fonssa-

grives, of Montpelier, who warns the profession as to the possibility of tetanus being induced by such injections. The professor mentions two cases—a child and an adult—who both died of traumatic tetanus after hypodermic injections of sulphate of quinine dissolved in water and a little sulphuric acid. Both patients were suffering from ague.

Art. 92.—*Danger of Hypodermic Injection.*

(*British Medical Journal*, Feb. 23, 1867.)

A danger of hypodermic injection is illustrated in a case recorded by Dr. Mitchell in the *Southern Journal of Medical Sciences*. A male Swiss, aged twenty-three, was admitted to the Charity Hospital, New Orleans, suffering from partial emprosthotonos, all the anterior muscles of the trunk being rigid in a semi-contracted condition; muscles of the arms and legs rigid, arms extended from the body, but flexed at the radio-humeral articulation; muscles of face slightly rigid. A large irritable ulcer of the size of a dollar was located above the insertion of the left deltoid; the border of the ulcer formed almost a circle, clean cut. The tissues beneath were entirely destroyed, presenting to view the uncovered muscle, which had the appearance of a piece of partially roasted beef, cut across the fibres, conveying to the mind the idea of some corrosive action. The symptoms gradually but rapidly increased in intensity, and the patient died. On inquiry, it was found that the patient had been treated two months previously in the same hospital for intermittent fever, by hypodermic injections of quinia, practised over the lower deltoid region of the left arm. Recovering from the fever, the patient was discharged, but in a few weeks again presented himself with the deep ulcer occupying the arm injected. Dr. Mitchell inclines to the belief that quinine is of itself a powerful irritant, when introduced into the tissues by the hypodermic method. He has seen in several instances much pain and considerable redness result from injections of small quantities of quinia, simply suspended in water without any of the dissolving acids; and he is satisfied from hearsay that this is not the only case of ulcer which has followed the hypodermic use of quinine in the city of New Orleans.

Art. 93.—*On the Absorption of Medicinal Agents by the Mucous Membrane of the Nasal Fossæ.*

By M. Raimbert.

(*Gazette des Hôpitaux*, No. 80, 1867.)

M. Raimbert, in a communication to the Academy of Sciences, stated that in cases of dental, supra-orbital, and frontal neuralgia, and in all kinds of headache, he had applied with advantage a combination

of powdered sugar and hydrochlorate of morphia, or morphia itself, to the mucous membrane of the nose. The proportions of his powders were nineteen parts of sugar and one of the active substance.

Art. 94.—*Subcutaneous Injection of Morphia in the Spasms caused by Gallstone.*

By Charles Robert Thompson, M.R.C.S.

(*Medical Times and Gazette*, August 17, 1867.)

Mr. Thompson records the following case, which occurred in his practice :—

"The patient, a stout, hearty tradesman, aged fifty, of temperate habits and generally good health, has been for three or four years past troubled occasionally (once or twice in the year) with most violent spasmodic pain from gallstone. The attack has in each instance been very severe, and accompanied with vomiting and great depression of vital power. On Thursday evening last he sent for me about 10 p.m. He had been suddenly seized about 9 with violent pain at epigastrium, and radiating thence in all directions; had vomited freely, and, with other ingesta, had returned directly two morphia draughts, with which he was always prepared in case of a sudden attack. I found him bathed in perspiration, in intense pain, coming on in paroxysms, which seemed almost unendurable, and during which he writhed and moaned in agony. Pulse only 64, soft, and easily distinguished. Drinking water or hot gin and water, which he had tried, produced vomiting directly. I injected at once into the back of the upper arm half a grain of morphia in solution. Within a minute or two he had a most violent attack of pain; but it was the last. In ten minutes he found himself comparatively easy, and was able to converse with me; and in twenty minutes after the injection I left him quite composed, and only saying that he felt very sleepy and benumbed. The next morning I learnt that he had slept for four hours from the time I left him, and had not felt the slightest return of pain. He complained of the usual effects of morphia —some nausea and faintness—but was at work again in the afternoon."

For subcutaneous injection, Mr. Thompson dissolves six grains of acetate of morphia in a drachm of acidulated distilled water; five minims contain half a grain of the salt.

Art. 95.—*Pepsine.*

(*Pharmaceutical Journal*, September, 1867.)

The following, Mr. Hasleden says, is the correct account of pepsine and its preparation, and as such may be interesting to some readers, more especially as it is not mentioned in the Pharm. Brit.

"To obtain medicinal pepsine, take a number of the rennet bags of fresh-killed sheep, empty them and wash quickly, and divide the internal membrane by rubbing strongly with a brush of dog's-grass or couch grass, macerate during two hours only the resulting pulp in water at 15° centigrade, throw the whole upon a coarse cloth, add to the strained, but not filtered, liquor a solution of neutral acetate of lead. An abundant precipitate is formed, decant the supernatant liquor, and replace it twice by fresh water. Finally, dilute the precipitate with fresh water, and pass into it a stream of sulphuretted hydrogen until there is a manifest excess.

"Distribute the liquor and the black precipitate upon a great number of filters, and as the liquor comes through evaporate in wide but shallow vessels and at a variable temperature which does not exceed 45° centigrade.

"Evaporate to dryness, and remove the product, which is in the condition of a firm paste and of a light brown or flaxen colour, with an acidulous taste and peculiar odour, but not in the least putrid or fetid. This constitutes medicinal pepsine; it dissolves forty times its weight of white, damp, but not wet blood fibrine. To effect this, put into a small wide-mouth flask and not closed,

Medicinal pepsine, - -	Twenty-five centigrammes,	0·25
Distilled water, - - -	Twenty-five grammes, -	25·00
Concentrated lactic acid,	Forty centigrammes, -	0·40
Damp fibrine, - - -	Ten grammes, - - -	10·00

Place the flask in a hot-water stove, the temperature of which does not exceed 45° centigrade, agitate several times. At the end of twelve hours, with the exception of a small greyish residue which fibrine always leaves, it will be dissolved, and give to the liquid a semi-gelatinous consistence. The liquid diluted with water and filtered does not become turbid by boiling; it forms with tannin a precipitate which becomes coriaceous, and of a violet tint. Alcohol gives an abundant white precipitate; nitric acid does not cause a precipitate without heat.

"A powder, more or less white, is met with in commerce, under the name of amylaceous acid pepsine, which is a mixture of medicinal pepsine, starch, and tartaric acid. This is considered good, when a mixture of one gramme with twenty grammes of water and six grammes of deep fibrine, completely breaks up the fibrine, and leads to the results before stated."

Art. 96.—*Heat as a Means of Resuscitation.*

(*The Lancet*, May 25, 1867.)

Dr. Richardson, of Union Springs, Cayuga County, New York, in the *American Journal of the Medical Sciences* for January, 1867, makes some striking remarks on the value of heat as a resuscitating agent. He acknowledges that in the experiments he adduces he acted upon a suggestion of Dr. B. W. Richardson, of London, who has had remarkable success in restoring the heart's action in animals by injecting warm

blood into the coronary arteries. The cases adduced by Dr. Richardson are very striking. One is that of a new-born child in whom all the ordinary methods of stimulating the heart and respiration, including artificial respiration, had well nigh failed. Dr. Richardson laid his corpse-like body on a bed of flannel *on the hearth of a large cooking stove, heated its arms and legs alternately only a little short of the blistering point, and then by firm centripetal friction drove the hot blood along its desired course.* "The effect of this treatment was miraculous." Both respiration and circulation improved wonderfully, and Dr. Richardson thinks that but for the officious administration of food in his absence, and against his instructions, the child would have continued to live.

Art. 97.—*Decoction of Sage in Profuse Sweating.*

By M. Vignard, of Nantes.

(*Edinburgh Med. Journ.*, Jan. 1867, *Journ. de Méd. de Nantes.*)

M. Vignard, after the manner of Van Swieten, has successfully employed decoction of sage for the relief of profuse sweating. In the case of a man twenty-five years of age, who had suffered from time to time during many years from attacks of this kind, the remedy proved effectual. The sweating began suddenly between two and three o'clock in the morning all over the body, and was so profuse as to completely saturate the bedclothes and to a considerable extent the mattress also. In consequence of the regularity of the attacks, sulphate of quinia was tried as an antiperiodic, but unavailingly; the perspiration regularly appeared, and without any apparent pathological cause. At length M. Vignard prescribed the following preparation:—Take of chopped sage leaves a large teaspoonful (*une forte pincée*); of water, six fluid ounces. Boil the sage for a minute or two in water; let it stand to cool, then filter, and sweeten to taste. From that time the perspiration ceased whenever the decoction was taken, but reappeared when it was omitted. M. Vignard suggests the use of this remedy in the colliquative sweating of phthisis.

Art. 98.—*The Action of Curara.*

(*Gazette Médicale de Paris* and *British Medical Journal*, June 22, 1867.)

Curara in moderate doses paralyses the extremities of all the motor nerves which spring from the cerebro-spinal system, whether the extremities are situated either in the striated or the unstriped muscles. It paralyses voluntary as well as involuntary motion. But the inhibitory nerves springing from the cerebro-spinal centres, the sensory nerves which terminate there, and these nervous centres themselves, are not attacked by the poison. Neither does it in any way affect the nervous system of the great sympathetic. Death by curara is due to more or less rapid paralysis of the respiratory muscles. The immunity

of the inhibitory nerves from the action of curara has been demonstrated by experiments, not only on the fibres of the pneumogastric which reach the heart, but on the splanchnic nerve in relation to the peristaltic movements of the intestine.

Art. 99.—*Alkaloids of Cinchona Bark.*

(*British Medical Journal*, June 22, 1867.)

The Madras Cinchona Commission, after elaborate experiments, have arrived at the conclusion that the alkaloids hitherto but little valued in medicine are scarcely, if at all, inferior as therapeutical agents to quinine. Medium doses of from eight to ten grains daily are best. They improve the appetite, strengthen the digestion, and in many cases appear to have a marked effect in reducing the size of congested spleens. Relatively speaking, no particular superiority of one alkaloid over another has been shown. The sulphate of quinine is, perhaps, the one regarding which there is the least difference of opinion as to its merits. All these are undoubted antiperiodic, and capable of controlling paroxysmal fevers. If three pounds of cinchonine can be obtained at the price of one pound of quinine, great public good would result from the purchase of the larger quantity, as it would enable the medical officers to benefit a much larger number. This result is of very great value to all growers of cinchona and consumers of quinine.

Art. 100.—*On Pulverized Ether in the Treatment of Chorea.*

By Dr. Zemberlin, of Strasbourg.

(*Gazette Hebdomadaire*, No. 39, 1867.)

Dr. Zemberlin reports a case of severe chorea, in which the agitation disappeared rapidly after the application of pulverized ether to the skin over the spine, particularly in the cervical region. Two pulverizations, each lasting for ten minutes, were applied, and followed in a short time by a permanent cure. Dr. Zemberlin thinks that this treatment acts on the disease by producing a certain degree of anæsthesia of the cord, or at least, of the nerves which spring from it; chorea being nothing more than a morbid excitation of the motor nerves of the cord. It is thought that this plan of treatment may be applied with success in other nervous affections, as epileptiform convulsions, and even epilepsy.

Art. 101.—*Extractum Conii—an uncertain Preparation.*

(*British Medical Journal*, June 22, 1867.)

Dr. John Harley proves by experiment, in a paper read before the Pharmaceutical Society, that the extractum conii is a very uncertain,

if not an inert, preparation. He attributes this to the fact that the active principle of the plant is, to some extent, vaporizable, even at a natural temperature of 70° to 90° Fahr.; and that prolonged exposure to a high temperature is accompanied by progressive diminution of the conia, the alkaloid being converted into ammonia or some other secondary product. It is therefore necessary, in order to obtain an extract of full power, to expose the juice in shallow dishes to a rapid current of dry air having the temperature of 150° Fahr. By this process an extract containing one per cent. of conia may be procured.

Art. 102.—*Obstinate Singultus cured by Extract of Cannabis Indica.*

(*British Medical Journal*, July 27, 1867.)

Dr. George P. Salmon, of New Lebanon, New York, has communicated to us (*American Journal of Medical Sciences*) a case of singultus which persisted for five days, resisting various antispasmodics, stimulants, &c., and which was entirely relieved in five hours by the administration of eight drops of Tilden's extract of Cannabis Indica every hour. Dr. Salmon states that he has used the same remedy beneficially to check the paroxysms of asthma, and has found it valuable in hysteria and in the nervous irritability resulting from various uterine disorders.

Art. 103.—*The Poisonous Action of Phosphorus.*

(*Medical Times and Gazette*, August 3.)

Contrary to the current doctrine that death in case of poisoning by phosphorus results from fatty degeneration of the liver, produced by phosphorus acid, M. Dybkowsky states in a recent memoir that the toxic result is entirely due to the formation of phosphuretted hydrogen gas, which in passing through the blood completely uses up the oxygen present. Hence he concludes that death from phosphorus is nearly equivalent to death by asphyxia.

Art. 104.—*Uses of the Ether-Spray.*

(*Bulletin Général de Thérapeutique.*)

M. Hérard has been making experiments with the ether-spray, and has obtained the result of temporarily soothing localized pains in several instances. In one the pulverization was used for neuralgia of the urethral canal. The application always gave relief for several hours; but the pain reappeared, and no cure was effected. The ether-spray was also applied to the epigastric region in a case of gastralgia with

vomiting. When the application was made an hour before taking food, the vomiting was almost, though not entirely, prevented. In this case, also, the vomiting reappeared as soon as the use of the ether-spray was discontinued. M. Hérard has taken advantage of the anæsthesia produced by the ether-spray to remove the hair from patients suffering from favus sycosis and impetigo of the beard.

Art. 105.—*On the Curative Virtues of Milk.*

By John Tatam Banks, M.D., M.R.C.P.

(*Edinburgh Medical Journal*, November, 1867.)

Dr. Banks says he does not wish it to be inferred that he regards milk as a panacea or even wholesome in every case. He is inclined to think that many diseases which depend upon, or which have induced a morbid condition of the blood, or where there is disorder of the hepatic, gastric, and abdominal circulation, and a state of perverse or deficient nutrition, may be brought under control by *air and exercise, and a judicious adaptation of food*, without the employment of much medicine; and that *milk*, administered in definite doses and at regular intervals (the quantity given being carefully diminished or increased under the guidance of the appetite for food), will be found a valuable alterative and efficacious remedy.

Art. 106.—*The Gas-Cautery of Nelaton.*

By Holmes Coote, F.R.C.S., Surgeon to St. Bartholomew's Hospital.

(*British Medical Journal*, August 10.)

Mr. Coote calls attention to the advantages gained by the use of the gas-cautery in the treatment of cancerous ulcerations of the skin. These cancerous deposits, which commence in the form of soft warts, soon pass into the ulcerative stage, when they spread slowly, attended with great pain, until they involve the neighbouring structures. The face is a very common situation, where the evils attendant on the progress are much aggravated by the fact that the features become involved, and deformity ensues. All surgeons have met with cases in which, from a variety of causes, the use of the knife is inadmissible.

The gas-cautery possesses these advantages: it chars the surfaces acted on to any amount, and the pain soon subsides when the flame is removed; unlike the action of the Vienna paste, the chloride of zinc, &c., the action is very speedy, and seems to exert a marked influence in arresting the progress of the cancerous ulceration; the destruction of the cancerous surface is followed, after each application, by a most

marked contraction and diminution of size, and this contraction seems the first stage towards recovery.

The use of the gas-flame is best where a general and powerful effect is required. Mr. Bruce's platinum point is useful where a limited and delicate application of the cautery is indicated, such as in operations about the eyelids.

Art. 107.—*A Substitute for the Stomach-pump.*

(*British Medical Journal,* July 27.)

Dr. R. W. Park, of Mobile, Ala. (*Med. and Surg. Reporter*) calls the attention of the profession to a ready substitute for a stomach-pump. The apparatus consists of a common Davidson's india-rubber syringe, and a large size gum elastic catheter attached to it. By introducing the catheter (or what is still better, a stomach-tube) into the stomach, and attaching it to one end of a Davidson's syringe, the stomach can be filled in a few seconds with water, and by reversing the syringe as quickly emptied.

Art. 108.—*Use of Azotite of Copper for Cancers.*

(*British Medical Journal,* September 21, 1867.)

The Paris correspondent of the *British Medical Journal* says, according to several practitioners, experience is very favourable to the employment of azotite or ammoniuret of copper, recommended recently by M. Chapelle, in the treatment of cancerous affections. This agent is said to have no action on the healthy tissues, while it rapidly disorganizes cancerous surfaces. It has, besides, the advantage of calming the pains and diminishing the fœtidity of the ulcers. The azotite of copper is employed in solution; and it is necessary to continue its use during several months.

Art. 109.—*Soluble Glass Bandages.*

By M. Velpeau.

(*British Medical Journal,* February 23.)

M. Velpeau calls attention to the bandages of silicate of potash, or soluble glass, which advantageously replaces albumen, starch, dextrin, papier-mâché, plaster of Paris, &c. The most valuable property of the bandage of soluble glass is that of promptly drying in two or three hours, and of easily becoming soft with water.

Art 110.—*Dr. Marcet's Process of Artificial Digestion.*

(*Medical Times and Gazette*, June 8, 1867.)

Dr. Marcet, in a pamphlet "On a New Process for Preparing Meat for Weak Stomachs," first alludes to the importance of supplying nourishment in sufficient quantity to the system in cases where, from some peculiarity, the stomach is incapable of fulfilling its functions aright. Beef-tea and milk are often the only articles of diet the stomach will bear, and even the latter frequently disagrees, whilst beef-tea alone does not supply sufficient pabulum. It therefore struck Dr. Marcet that the process which naturally goes on in the stomach might be imitated artificially, and so supply the food in a partially digested condition. He accordingly took hydrochloric acid and some pepsine, added these along with water to a quantity of meat, allowing the whole to simmer over a water-bath at about the temperature of the body. When the meat was sufficiently broken up, it was strained, and the acid neutralized by carbonate of soda, when it was ascertained that the product was of a most agreeable character, easily digestible, and containing a vast deal more nourishment than common beef-tea. The proportions he recommends are 58 grains of hydrochloric acid, sp. gr. 1·1496, in a pint (20 oz.) of water, with 15 grains of Boudault's pepsine, and 81 grains of bicarbonate of soda to a pound of meat (weighed raw), the chemicals costing about sevenpence. Where pepsine is unattainable, strips of calves' stomachs, answer very well, or we do not see why the rennet prepared from it and used for curdling milk should not be employed. The food thus prepared keeps well until neutralized, but not so well afterwards. One point to be noticed is that no metallic vessel should be used in the process, lest the acid act upon it, but for full particulars we must refer our readers to Dr. Marcet's little work.

Art. 111.—*Danger attending Eye-washes containing preparations of Lead.*

(*Canada Medical Journal*, April.)

From practical observations, made at the Hospital of Saint Sauveur, at Lille, upon the evil effects of collyria containing acetate of lead, quite frequently employed as an astringent in light cases of ophthalmia, a precipitate of lead was observed upon the cornea, a layer of chloride of lead which renders it dim, and forms erosions upon it, by destroying its epithelium. Vessels are developed upon the cornea, as it were, to resist this morbid process, and the precipitate, after its disappearance, leaves behind it an ulcer of the cornea and pannus, which it is often very difficult to remove—in fact, a greater evil than that which it was first intended to remedy. The sight of the right eye was thus completely lost in a case, for whom the following collyrium had been prescribed: subacetate of lead, ℥ss; Sydenham's laudanum, gtt. xx; distilled water, ℥v. This is barely useful in some cases of pannus;

and even blennorrhagic inoculation, instituted in Belgium, seems preferable in these cases. It is then safer to erase it entirely from the list of eye-washes.

Art. 112.—*Opium in the Treatment of Ulceration.*

By J. Faryer, M.D., F.R.S.E., First Surgeon to, and Professor of Surgery at, the Medical College Hospital, Calcutta.

(*Medical Times and Gazette*, June 1, 1867.)

This case, Dr. Fayrer says, is interesting from the extraordinary toleration of opium evinced by the patient. G. W. W., aged twenty-eight years, an English engineer, was admitted into the Medical College Hospital on February 21st, 1866, with a sloughing ulcer on the upper and internal surface of the left foot. It commenced as a small pustule, which excited much inflammation in the foot, seven months prior to his admission. It cicatrized over in the Moulmain Hospital, but broke out shortly afterwards on his voyage to Calcutta. The ulcer, on admission, was irregular in outline, and about two inches in length. It was very painful; the surface was of an ashy colour, and the margins were swollen and inflamed.

He had syphilis about a year and a half ago, but says he did not suffer from the constitutional disease. He had been in the occasional habit of opium-smoking seven or eight years ago, but had left it off completely since then.

Under the influence of potass. iodid., poultice, and rest on a splint, healthy granulations sprang up, and a portion of bone that was exposed became covered with granulations. The ulcer had contracted to the size of a shilling, when, on March 30th, a tendency to spread was observed at its posterior margin.

The ulcer had an inflamed, irritable look, and continued to spread, when, on April 16th, the following was ordered:—Opium, gr. j every four hours; the leg to be suspended in a cradle, and dressed with toddy poultice.

21st.—No improvement. Increase the opium to gr. jss every four hours. ℞ Acid. nitric. dil. ♏x; tinct. opii ♏x; aquæ ℥j. Lotion for dressing, instead of the poultice.

30th.—Ulcer less painful, but still looking irritable. Opium, gr. ij every four hours. Opium lotion, gr. v to aquæ ℥j as a dressing. Arg. nitrat. lot. gr. x to ℥j as an application.

May 1st.—Does not feel sleepy; ulcer no better. Opium, gr. iij every four hours. Continue dressing.

6th.—Healthy granulations beginning to make their appearance in different parts of the ulcer. Opium, gr. iv every four hours. Continue dressing.

9th.—Ulcer covered with healthy granulations and cicatrizing. Continue pill ever three hours.

13th.—Pupils natural; feels sleepy occasionally during the day. Opium, gr. v every three hours. Continue dressing.

26th.—Much itching of the body; feels sleepy; pupils natural; ulcer again looking unhealthy at the margin. Continue pill. Quinine m. gr. ij every four hours.

June 2nd.—Ulceration extending. Continue pill. ℞ Ol. terebinth. ♏xx; spir. æther. nitric. ♏xxv; aq. camph. ℥j ter die. Omit quinine.

6th.—Ulcer no better. It is extending and deepening, and the cicatrix tissue giving way. Omit opium. Continue dressing.

7th.—Not so sleepy. Has no pain. Appetite bad. One opium pill, gr. v, at bed-time. Quinine, gr. iij ter die.

8th.—Slept badly. Complaining of much pain in the ulcer. Inclined to vomit. Feels very uneasy. Opium, gr. ivss every four hours. Opium poultice as a dressing,

11th.—Ulcer has an ashy appearance. Continue pill every three hours. Balsam of Peru for dressing.

16th.—Ulcer has spread over the whole external aspect of foot. Tendons sloughing. Is despondent. Wishes to have the foot amputated. Opium, gr. v every three hours. Opium lotion for dressing.

17th.—Ulcer looking worse. Opium, gr. vj every three hours.

19th.—Feels easier. Destructive process arrested. Sloughs separating. Opium, gr. vjss every three hours.

July 7th.—Ulcer contracting and much smaller. Healthy granulations rising all over it. Opium, gr. vj every three hours. Cod-liver oil ℥ij once.

August 19th.—The margins look suspicious. Opium, gr. vij every three hours.

29th.—No more ulceration of cicatrix. Bowels regular. Appetite good. Opium, gr. vijss every three hours.

September 4th.—The ulcer has nearly cicatrized.

6th.—Left the hospital to go to sea.

The strength was supported throughout with nutritious diet, port wine, and beer, and bowels kept open when necessary with cathartic enemas.

Remarks.—The lesson to be derived from this case appears to Dr. Fayrer to be the necessity of studying the effects of the drug on the patient, and not being influenced by the quantity alone. He generally commences with doses of a grain every second or third hour, and increases or diminishes the quantity according to its action. Its effect is generally most satisfactory; the destructive process ceases, healthy granulations appear, and contraction and cicatrization begin. The quantity may be somewhere between one grain and five or six grains. In no case would it be prudent to begin with more than two, though the case cited shows it may have to be increased to much more. Seven grains and a half were given every three hours, with the best effect. The local applications are also of the greatest importance, especially in sloughing or phagedænic ulceration, and in his experience none is better, or indeed as good, as strong nitric acid. The dead tissue is immediately decomposed by its action, and the dead and decomposing animal matter, which is most injurious to the living tissues with which it is in contact, is thus removed. The action of the putrid dead tissue kept in contact with the living is most prejudicial, and hastens the death of the parts with which

it is in contact. The application of nitric acid, though very painful for a time, is followed by healthy action in the part. The pain diminishes, and repair rapidly begins, and, under the influence of opium, progresses till cicatrization is completed.

The notes of this case were kept by Dr. Fayrer's house-surgeon, Baboo Gopaul Chunder Roy, L.M.S.

Art. 113.—*Does Belladonna produce a Rose-red Rash?*

By Henry William Fuller, M.D. Cantab., F.R.C.P.,
Physician to St. George's Hospital.

(*The Lancet*, June 8, 1867.)

The question which forms the heading of this article is suggested by a paper "On Skin Diseases," published in *The Lancet* of April 13th, p. 455. After enumerating various medicines which give rise, or are supposed to give rise, to cutaneous eruptions, Dr. Tilbury Fox enunciates as a fact that "belladonna produces a rash of rosy hue." Practically, it matters little whether this statement is or is not correct, as it has never been suggested that a "belladonna rash" is likely to be mistaken for the rash of any eruptive disorder. In a series of experiments which Dr. Fuller instituted some years since at St. George's Hospital, the details of which will be found in a paper on the "Action of Belladonna," published in vol. xlii. of the *Medico-Chirurgical Transactions*, the extract of belladonna was given for a period of some months, in doses varying from a quarter of a grain up to seventy grains daily; the patients were examined four or five times daily, and the occurrence of any rash or eruption was carefully looked for. But in none of these cases, nor in any of the patients to whom Dr. Fuller has since administered the drug, in doses varying from one-twelfth of a grain to half a grain daily, has he ever witnessed the occurrence of erythema or of a rose-red rash, with the one exception above referred to. In that instance the smallest quantity of onion, spinach, and sundry other matters which were imperfectly digested, gave rise almost invariably to "spasm" in the bowels and to a roseolous condition of the skin; and he ascertained by experiment—by the subsequent administration of belladonna on several occasions, while the patient was being strictly dieted—that the drug had no part in the production of the rash. Inquiries which Dr. Fuller has made amongst members of the profession who are largely engaged in practice, and who at the same time are close observers, have convinced him that his experience is not exceptional, and that when a rose-red rash is observed, as it *very rarely is*, during the administration of belladonna, it is referable, not to the action of the drug, but to the operation of causes which would have produced the rash even if belladonna had not been administered.

Art. 114.—*On the Inhalation of the Vapour of Chloride of Ammonia in its Nascent State.*

By Hermann Beigel, M.D., M.R.C.P. Lond., Physician to the Metropolitan Free Hospital, and to the Farringdon Dispensary.

(*The Lancet*, October 26, 1867.)

"Ammonia is one of the few medicaments which have been in great favour with physicians from the earliest period of medical history up to the present time; and the favour is well deserved, for the medicament renders very good service in all catarrhal diseases of mucous membranes in general, and of those in particular which line the air-passages of the human body.

"Powerful and beneficial as ammonia is as a remedy, yet it is connected with many inconveniences when applied as vapour spontaneously exhaled from solutions of ammonia. In this state, even if sufficiently diluted, violent symptoms follow each application; and, the gas being rapidly absorbed by the mucous membranes of the respiratory apparatus, the local effect cannot easily be controlled.

"A far better plan of applying ammonia to the organs of respiration, therefore, is the one of Dr. Lewin, consisting in making use of the nascent state of chloride of ammonia, in which state it forms a vapour, and can readily be inhaled. But this vapour consists, in fact, of the atoms of a solid body, which, when inhaled, penetrate into the minutest vesicles of the lungs, and, becoming precipitated on the mucous membranes of the organs of respiration, afterwards get absorbed, thus exercising both a local and general effect.

"This affords many important advantages. But before enumerating them, it will be necessary to explain the construction of the apparatus which I employ for the above purpose. It consists mainly of three bottles, as used in chemistry for the evolution of gases: one, containing some liquor ammonia, and another, containing some hydrochloric acid—according to their chemical proportions—are connected with a third, which is about half filled with pure water. From the last bottle the inhaling tube projects. The whole apparatus is put into a box for portability.

"The patient raises the mouthpiece of the tube to his mouth and uses it exactly in the same manner as a pipe is used by a smoker. With each draught, ammonia, escaping from the first bottle, and hydrochloric acid gas from the second, combine, the moment they meet in the third, to form chloride of ammonia, which gets washed in the water of the last, and deprived of the superfluous particles of the two constituents.

"The apparatus, which I had made by Messrs. Krohne and Sesemann, of Whitechapel-road, is extremely simple, and requires no other attention than to renew from time to time the fluids. The advantages of this mode of local application of ammonia are various.

"1. The vapour of chloride of ammonia thus smoked *in statu nascente*, may be swallowed or inhaled without any inconvenience: in the former

instance becoming absorbed by the stomach; in the latter, being in contact with the mucous membranes of the mouth, pharynx, larynx, trachea, bronchial tubes, and, according to the force of inspiration, it penetrates into the minutest vesicles of the lungs.

"2. The vapour being precipitated only after a few seconds' stay in the respiratory organs, it is in our power either to exhale it again after acting for a short time on the mucous membrane, or by keeping the breath for a few seconds, to allow the vapour to precipitate on the mucous membranes.

"3. A deep inspiration being required to drive the vapour forth to the finest air-tubes and lung vesicles, it is to a certain degree in our power to act only on the pharynx and larynx, or to extend the action to the bronchial tubes and lungs.

"4. By altering the proportions of the hydrochloric acid and the ammonia, the latter may be allowed to exist in a free state, and to exercise irritating effects. Should it, on the other hand, be required to deprive the vapour of all superfluous particles of ammonia, it would only be requisite to add some hydrochloric acid to the water in the third bottle; thus establishing two sources for originating chloride of ammonia.

"5. If balsamic mixtures or volatiles be added to the water—for instance, essence of turpentine, camphor, &c.,—the efficacy of the smoke may be increased in appropriate cases.

"6. The smoking and inhaling of chloride of ammonia is not in the least disagreeable.

"It is true that a certain amount of practice is required in order to inhale the smoke well; but this practice is acquired very soon indeed. The effect of these inhalations, in many cases, shows itself very rapidly; and I have seen instances of bronchial catarrh in which relief was felt after inhaling a few times only. Hoarseness, proceeding from a catarrhal state of the vocal cords, has likewise been relieved in some instances in which local application of astringent solutions have been without any effect. Difficult expectoration becomes often soon easy; and the vital capacity increases if it has been diminished by an undue action of the mucous membranes of the organs of respiration."

Art. 115.—*On Hydrochlorate of Ammonia in Senile Gangrene.*

By Dr. Gru.

(*Bulletin Médicale de l'Aisne; Gazette des Hôpitaux,* No. 70, 1867.)

A woman, eighty-three years of age, was suddenly seized with intolerable pain in the right foot. Eighty-four hours after, the extremity was of a dark blue colour, which ceased at the tibio-tarsal articulation, where a rose-coloured border indicated the line of demarcation between the diseased and the healthy parts. The foot was quite cold. Recourse was at first had to preparations of opium in large doses, but the pain still persisted, and the state of the patient seemed to be desperate.

Dr. Gru then placed 250 grammes of hydrochlorate of ammonia in water, and in the solution the affected limb was plunged as high as the malleoli. At the end of two hours there was marked relief. The pediluvium was then replaced by fomentations made up with the same solution, and application of these was imperiously demanded by the patient. Immediately the compresses were removed the pain returned. The normal temperature and colour of the extremity were insensibly restored under the influence of the local application, the nail of the second toe became detached, and a small wound resulted, which was cicatrized at the end of three weeks.

Twelve months later, similar precursory signs of senile gangrene were manifested in the same foot. On this occasion the hydrochlorate of ammonia was at once employed, and its sedative properties were immediately experienced. A black bleb formed upon the outer border of the foot, and a gangrenous patch was formed which separated, leaving an ulcer which was healed over at the end of twenty-one days. Since that time no similar affection has been presented.

Art. 116.—*Medicines or Food that directly Promote Nutrition.*

By H. Bence Jones, A.M., M.D., F.R.S., late Physician of St. George's Hospital.

(*Lectures on Pathology and Therapeutics.*)

"The most remarkable example of increased nutrition by medicine is seen in the increased formation of blood-globules when iron is taken. The formation of hæmaglobin implies the formation of hæmatin, and without iron no hæmatin is produced, so that iron may be regarded as one food of the blood-globules. When it is absorbed in greater quantities than the ordinary food supplies, increased formation of hæmatin occurs, and in cases of anæmia this increased formation may be watched and stopped when it is considered that sufficient red-colouring matter has been produced. The chemical process by which the iron helps to build up the hæmatin is quite as unknown to us as was a few years since the formation of urea or any other of the innumerable organic substances which chemistry is now able synthetically to construct; but that the metal itself and many of its salts will lead to the increased formation of new blood-globules is proved by the innumerable preparations of iron that are in use in medicine, no one of which can be said to have an undoubted superiority in the cure of anæmia.

"Possibly by giving ready-formed hæmatin or hæmaglobin, a more rapid formation of blood-globules will be obtained than when any other preparation of iron is given.

"The second remedy I may mention is phosphate or carbonate of lime, in promoting nutrition of the bones. In cases of rickets, by giving ivory shavings, by powdered bone itself, by calcined bone, by pure phosphate or carbonate of lime, increased formation of bony substance may be produced.

"The third medicine is cod-liver oil. This remedy clearly shows the impossibility of distinguishing between food and medicine. Its chief ingredients increase the deposit of fat in the cellular tissue, and this nutritive action on the adipose tissue differs in no respect from that which might be obtained by turtle, or cream, or olive oil. It is, however, quite certain that many substances besides oily matter exist in the cod-liver oil, and to these intermixed substances the cod-liver oil probably owes its medicinal repute. M. Chevreul has found no less than twenty-nine substances in mutton suet.

"Fourthly, it is highly probable that other nutritive substances might be found which will specially promote the nutrition of particular textures, the more nearly in chemical composition the nutritive substance agrees with the texture to be nourished. Thus, in failing supply of the whole blood, the whole blood may be renewed by transfusion. In wasting muscle from exercise or other cause, meat may be the special remedy. Gelatine may perhaps supply the wasting cellular tissue, and even the highest of all textures, the brain and nerve substance, may perhaps be best restored by food of which these substances form a part. That phosphorus assists in the formation of protagon, as iron does in the formation of blood-globules, is far from any direct proof. Far less probability exists that phosphoric acid or the salts of phosphoric acid—as phosphate of iron, or phosphate of iron and strychnia—can be so decomposed, and the elements recombined in the body, that the phosphorus may promote directly the nutrition of the brain or spinal cord.

Art. 117.—*On the Efficacy of Mercury in the Treatment of Syphilis.*

Discussion at the Société de Chirurgie, Paris.

(*Bulletin Général de Thérapeutique*, July 30, 1867, and *Brit. and Foreign Med.-Chir. Review*, October, 1867.)

A discussion has lately taken place in Paris as to the value of mercury in the treatment of syphilis, and many of the most distinguished surgeons of France have given their opinions upon the subject. The general conclusion has been favourable to the employment of this metal, although some of the speakers limited its use to certain stages of the disease, and one denied its efficacy altogether. The last-named speaker, M. Després, who had derived his experience from the Hospital de Lourcine, is decidedly opposed to the employment of mercury in syphilis, and prefers a tonic and supporting treatment. His statistics, founded upon 234 cases, show that 28 in 100 returned uncured after a mercurial course, while only 10 in 100 returned uncured after a more or less completely tonic treatment. He thinks that the tonic treatment is the physiological remedy for syphilis, and that when the mercurial plan succeeds, it is only owing to the fact that it is combined with a good tonic regimen, which is the true therapeutic agent. It should be stated that M. Depaul energetically disputed the statistics of M. Després, and considered them as of no value, because the

latter surgeon had not taken sufficient time to follow out the cases, and because he had not sufficiently studied the relative value of the mercurial and the expectant treatment. M. Depaul affirms that mercury acts in a special manner on the pathological products of syphilis, and removes new formations: he has himself observed the rapid cure of persistent head-affections, the disappearance of multiple tumours of the tongue, &c. In answer to the question whether mercury ought to be administered in syphilitic affections to pregnant women, M. Depaul answers in the affirmative, and he declares that in many cases where the syphilitic mother has borne dead children, or has aborted, she has afterwards borne living children when mercury has been administered during the pregnancy; and, again, when the syphilitic taint has been contracted during the pregnancy, a mercurial course will ensure the production of a living child, while, without such treatment, the probability is that the child would be born dead. Syphilitic infants ought, according to the same surgeon, to be treated by mercury, which in these cases acts in an almost wonderful manner. The editor of the *Bulletin Général de Thérapeutique*, in commenting on the discussion in the Société de Chirurgie, states that with the exception of M. Després, who is at the commencement of his surgical career, all the speakers expressed the opinion that mercury is a very valuable and often indispensable medicine in the treatment of syphilis. The anti-mercurialists allege that syphilis is only a poison introduced into the blood, and that nature tends to eliminate it; that the cutaneous symptoms of all kinds are only different forms of elimination, and that the work of nature, therefore, ought not to be disturbed, but should rather be supported by a tonic regimen. But it is answered that nature often eliminates the poison very imperfectly, and that then a little assistance is of great service, and that the mercurial preparations are the best assistants which medicine can offer. It is well known that syphilis, like other diseases, will be cured spontaneously; but it does not therefore follow, say the mercurialists, that mercury is useless. The fact is that syphilis varies very much in its character, according to the region it attacks, and the constitution of the individual who suffers from it; and it is well known that of two men contracting the disease from the same woman, one will speedily get rid of the poison, while the other will suffer the whole series of secondary and tertiary symptoms. Another cause, according to the writer in the *Bulletin*, which has caused great difficulty in the therapeutics of syphilis, is the confusion which so long existed as to the nature of chancre before the distinction was made between the soft and the hard chancre. The former never, or very rarely, causes constitutional syphilis, and may get well without any internal treatment; and this fact lends great weight to the views of the anti-mercurialists. Among the practitioners who advocate the use of mercury in syphilis, very different opinions prevail as to the time and manner of administering the drug, and M. Diday of Lyons, for example, does not give mercury for the primary sore, or at least he gives it but seldom. He prescribes it only after a few weeks, and when the persistent induration proves that the constitution is affected; nor does he give it in secondary symptoms, if they are slight, and if the constitution of the patient in-

dicates sufficient strength to resist the morbid agent. But he gives it if the first eruption instead of consisting of roseola or distinct papules, consists of deep-coloured spots, scales, or pustules. In reference to the period when mercury ought to be given, there was considerable difference of opinion expressed by the speakers, some, as MM. Dolbeau and Perrin, preferring to wait for the appearance of the eruption; while others, as MM. Cullérier, Verneuil, Guérin, &c., recommended that it should be given immediately; and this view is advocated by the editor of the *Bulletin*, who argues that as the diagnosis between the hard and soft chancres may now be easily made, there is no good reason for delay. He thinks that the anti-syphilitic treatment should be commenced as soon as it is evident that the primary sore is an infecting one. This is moreover the opinion of M. Ricord, who considers the induration of the chancre as the first secondary manifestation. The tertiary symptoms of syphilis did not occupy much of the attention of the speakers, because all were agreed as to the efficacy of the iodide of potassium; but this medicine sometimes fails, and it appears to act better when its use has been preceded by a mercurial course. In concluding the analysis of the discussion, the editor of the *Bulletin* lays down the following general rules as to the treatment of syphilis. When the infecting nature of the chancre is recognised, it is best to begin the treatment as soon as possible. The mercurial preparations should vary according to the kind of patients, and if one preparation does not seem to succeed, another must be tried. Syphilis may be radically cured, provided that the mercurial treatment and the administration of iodide of potassium are accompanied by a restorative regimen, and abstinence from all kinds of excess.

Art. 118.—*On the Antiseptic Property of Alcohol in Fever.*

By Robert Barnes, M.D.

(*The Lancet*, October 19, 1867.)

In an interesting letter to the editor of *The Lancet*, Dr. Barnes says:

"Whosoever has been called upon to watch and to tend cases of fever in the capacity of a nurse, as well as in that of a physician, will be able to bear testimony to the stimulating and the *sustaining* powers of alcohol. One mode by which fever tends to destroy life is by the rapid exhaustion of the nutritive properties of the blood. A quick and constantly-recurring effect of this is nervous prostration; a tendency to sink, marked by stupor and an accelerated feeble pulse. In this condition salvation lies in the prompt administration of alcohol. The patient, out of mere excess of debility and unconsciousness, may at first refuse to take anything. But get down a teaspoonful of generous wine or brandy: a little strength returns; the sense of the want of supply, of hunger, is felt; the patient will take more with avidity; he will be roused to the capacity of swallowing more strictly nutritious food, and will thus be enabled to carry on the conflict against the exhausting and toxical influences of the fever.

"Without going into the question whether alcohol is a food or not, I am in a position to state, from close clinical observations, that it, at any rate, is to a certain extent *a substitute for food*, by sustaining the powers of life under circumstances where the call for food is urgent and obvious, but cannot be supplied. One proof of this lies in the extraordinary tolerance of alcohol with which we are familiar during fever.

"But amply recognising, as I do, these two qualities of alcohol—first its stimulating, secondly its sustaining virtue—there is a third, which appears to me of scarcely inferior importance. I mean its virtue as an *antiseptic*. In zymotic diseases there is not only a rapid using-up of the vital properties of the blood, but there is also a direct poisonous influence at work, owing to two causes. First, there is the specific poison of the fever, multiplying itself; secondly, there is the empoisoning process, resulting from perverted nutrition and impeded excretion. Now alcohol, which is rapidly absorbed into the circulating fluid, mixes with it, and, for a time at least, is undecomposed, and retards the double process of empoisonment by its antiseptic property. The mineral acids, I believe, aid this action. Certainly, under alcohol the secretions in fever improve; the diarrhœal stools of typhoid become less offensive. In puerperal fever these beneficial effects are often very marked. During the last epidemic of cholera, I put in practice the use of carbolic acid as an internal medicine, prompted by this indication. The success attending the plan was at least encouraging; and I believe that it ought to be borne in mind as a ruling principle in the treatment of zymotic diseases."

Art. 119.—*On the Antiseptic Properties of the Sulphides.**

By Dr. Polli, of Milan.

(*The Lancet*, September 21, 1867.)

Dr. Polli said he had undertaken an investigation as to the action of the sulphites of lime, hyposulphite of magnesia, sulphite of magnesia, sulphite of soda, and granulated sulphite. These substances were found to possess all the properties of sulphurous acid, with the advantage that their action was more uniform, certain, and constant. Both on animals and on himself he found that large doses could be taken without risk. On killing animals treated with sulphites, and others not so treated, he found that the former were more slow to decompose, and, indeed, remained quite fresh when the others were putrescent and offensive. In another series of experiments the sulphites were efficient to cure, more or less rapidly, cases were blood-poisoning was present, as in fevers. This was attributed to their antiseptic properties. The author thought his observations conclusive as to the excellent influence of the sulphites on the septic diseases,

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* Abstract of a paper read before the British Association in Dundee, September 10.

and remarked that it was for the purpose of benefiting others that he had brought his researches under the attention of the scientific world.

Dr. John Davy remarked that sulphurous acid had long been known for its remarkable antiseptic power. Professor Turner observed that Dr. Dewar, of Kirkcaldy, had recently called attention to the use of sulphurous fumes in relieving various forms of consumptive disease, and had shown their value in cases of cattle plague two years ago, when it was rife in Fife. He also referred to the use of sulphurous acid gas for the preservation of meat. Dr. Davy preserved a chicken several days in sulphurous acid gas, in the Ionian Islands, in the heat of summer, and when cooked it was fresh and tender. Dr. Pattison, of Edinburgh, following Dr. Dewar, had observed beneficial results in cases of consumption from the use of sulphurous fumes, which evidently stopped the decay.

Art. 120.—*Antiseptic Properties of the Hyposulphites.*

By Dr. Constantin Paul.

(*Edinburgh Med. Journal*, January, 1867.)

Dr. Paul, who has previously written upon the physiological and therapeutical properties of the sulphites and hyposulphites, contributes to the *Bulletin de Thérapeutique* two facts relative to the disinfectant properties of the hyposulphites.

First fact :—A patient suffering from severe dysentery arrived in Paris in October, 1865, during the prevalence of cholera. He inhabited a healthy locality, in which there had been no cholera. Some days after his arrival, the chambermaid took cholera and died in twelve days; after her several other servants were seized with cholera, but none died. Believing that this outbreak was due to the extremely offensive evacuations of his dysenteric patient, Dr. Paul employed a solution of hyposulphite of soda as a disinfectant. To the great comfort of those in attendance, the fetid odour from that moment disappeared. Not content with this amelioration, however, Dr. Paul sought to disinfect the offending matter before it left the intestine, for which purpose he employed the solution in the form of an enemata. The effect of this was not only to destroy the odour of the evacuations, but also to give considerable relief to the patient, the intestine becoming less painful and defecation less irksome.

Second fact :—Dr. Paul, considering that the lochiæ may be a fruitful cause of puerperal diseases, resolved to try the disinfectant action of hyposulphite of soda as a preventive of these distressing obstetric sequelæ. For this purpose, he sprinkled the napkins to be applied to the parts with solution of the hyposulphite, and found that by that means the disagreeable odour which attends the accouchment-chamber was completely dispelled; and he believes that not only a disagreeable but a dangerous condition of the atmosphere of the apartment may thus be obviated. Dr. Paul states, that far from causing irritation

of the parts, the solution has rather anæsthetic properties, and moreover, that wounds previously dressed with it become much less sensitive and less painful when touched.

Art. 121.—*On the Action of Digitalis in the Febrile State, particularly in Acute Articular Rheumatism.*

By M. Oulmont.

(*Archives Générales de Médecine*, 1867.)

The following is a *résumé* of the facts detailed in a paper read by M. Oulmont before the Academy of Medicine, Paris. The author proposed in this contribution to verify the therapeutical experiences of digitalis acquired by Traube in Germany, and by M. Hirtz in France.

Digitalis was administered in a great number of febrile affections, particularly in cases of acute articular rheumatism. The action of the drug in this affection is manifested by characteristic phenomena. In from thirty-six to forty-eight hours, the pulse and temperature commence to fall; towards the third, or generally the fourth day, nausea and vomiting supervene. At this period the fall of the pulse is more marked, and it rapidly reaches from twenty to thirty pulsations; the temperature also diminishes by one or two degrees. At the same time the morbid manifestations of rheumatism gradually disappear, and sometimes with surprising rapidity; cure may take place in five or six days, but generally towards the twelfth or fifteenth day, when the attack is a simple one and free from complications, or attended with complications that are not serious. In individuals who are diathetic or who have had previous attacks, rapid recovery is a rare event, and the malady is obstinate, relapses more or less numerous may take place, upon which digitalis has no longer any effect.

M. Oulmont concludes from these facts that digitalis acts upon the febrile elements, the removal of which may cause that of the malady, but that it has no influence upon the rheumatic element itself.

M. Oulmout never observed accidental or metastatic cardiac affections to occur in his patients. Old standing affections of the heart were ameliorated; although delirium and other cerebral affections existed frequently, these affections were never serious, and always quickly disappeared. The urinary secretion was not augmented.

Digitalis was administered to all the patients in a uniform manner. An infusion was made of one gramme of the pulverized herb in 120 grammes of sugar and water, a tablespoonful of which was given every hour. The administration of the drug should be suspended when gastric symptoms appear, and renewed only in cases of relapse.

Art. 122.—*On the Therapeutical Properties of Podophyllin.*

By Dr. Ernst Schmidt.

(*Schmidt's Jahrbücher der Gesammten Medicin*, and *British and Foreign Med.-Chir. Review*, October, 1867.)

Dr. Schmidt reports on the properties of podophyllin, on which he has made some special investigations during a residence of nearly nine years in America. The drastic property of this substance he states to be ten times as powerful as that of the resin of jalap, half a grain to a grain of podophyllin acting as powerfully, although somewhat more slowly, than five to ten grains of the other drug. Larger doses, as four to six grains, prescribed in bilious fevers, occasionally caused griping, nausea, giddiness, sweating, and persistent watery stools, without, however, causing gastro-enteritis, as is repeatedly observed after large doses of other drastic medicines such as jalap and croton oil. Dr. Schmidt never employed such large doses, but in strong constitutions he has given half a grain to a grain every one or two hours; and only on one occasion he was obliged to give two-grain doses in a case of lead colic. After a few half-grain doses, or one dose of a grain, abundant stools generally ensued in from four to six hours; but if a more rapid operation is required, a couple of grain-doses may be given with an interval of an hour. Dr. Schmidt states, as a remarkable fact, that with the stools a very large quantity of intestinal mucus and bile was evacuated. Occasionally in children the above-mentioned moderate doses caused at first some vomiting, succeeded by the evacuation of considerable quantities of mucous and biliary matters, so that no injury resulted.

Art. 123.—*The Application of Carbolic Acid to Surgery.*

(*Giornale Italiano delle Venetie*, and *British Medical Journal*, June 22, 1867.)

Dr. Bottini, surgeon to the chief hospital of Novara, has been experimenting on the application of phenic acid to wounds on six hundred patients. He employs it in solution containing from two to five per cent., and he has always found that it modifies suppuration and facilitates cicatrization. He reports numerous observations of gangrenous wounds, of diffuse phlegmon, and of necrosis, which visibly improved under the action of the solution. By the aid of a solution containing one per cent. injected into the bladder, he has obtained unexpected cures of obstinate cystitis. The injections arrest the putrefaction of the urine which stagnates in the bladder under the influence of hypertrophy of the prostate, or of contraction of the urethra. After the application of the phenic acid solution, M. Bottini observed in the pus and urine the absence of myriads of zoophytes and of species of *penicillium glaucum*, which had previously been present. He also employs phenic acid for preserving anatomical objects. For this purpose, he uses a solution of three parts in the 100, and leaves the subject to macerate in it during seven or eight days. He then lays it on a cloth in the position which he requires, and allows it to dry in the air. The acid does not attack the

material used to inject the arteries or veins. When the subject is thoroughly dried, he covers it with a thin coating of copal varnish. This method is inexpensive, easy to effect, and produces excellent results.

Art. 124.—*On the Action of Carbolic Acid upon Organic Tissues.*

By Dr. Isidor Neumann, of Vienna.

(*Wiener Med. Wochenschrift*, 35, 1867 ; *Schmidt's Jahrbücher*, No. 8, 1867.)

Dr. Neumann commences his paper by reporting cases of lupus treated by carbolic acid. In the following case the local application of this agent was followed by very favourable results :—

A little girl, four and a half years of age, had a patch of lupus of the size of a thaler on the posterior aspect of the left thigh, and another of the size of a halfpenny on the right arm. These were brushed over morning and evening with diluted carbolic acid (one drachm to an ounce and a half of alcohol). The treatment lasted for nine weeks, without giving any pain to the child, and at the end of that period the lupus had dwindled into five or six reddish brown spots.

For the purpose of investigating the action of carbolic acid upon the tissues, Dr. Neumann instituted the following experiment :—

Four drops of diluted carbolic acid (one part to four of alcohol) were injected subcutaneously into the pinna of a small white dog. This resulted immediately in the formation of a deep brown patch, about the size of a lentil, and encircled by an œdematous swelling. On the following day this spot increased to the size of a grosh-piece, and the surrounding swelling was also larger and encircled by a halo of inflammation. The whole of the pinna was swollen, thickened, and felt hot. The subsequent changes were those of mummification, and an eschar formed of destroyed tissue was thrown off.

A second experiment, made upon the pinna of the opposite side, gave similar results.

On microscopical examination of a section of the eschar, the most remarkable point was the transparency of all the tissues. It was similar to that resulting from the action of acetic acid, but without swelling. A parallel section from the same side differed only in being more opaque. The cartilage cells were found unchanged; the corium was filled with numerous collections of nuclei.

The blood corpuscles when acted upon by carbolic acid run together and form transparent hyaline vesicles ; some retain their form, and lose only their colouring matter ; others, again, increase in size. After prolonged and intense action of the acid the blood becomes thicker. When muscular fibre is treated with carbolic acid, the transverse striæ become more distinct, but after a longer action are less evident. The muscular bundles become transparent to the naked eye. A muscle which had been laid in carbolic acid for twenty-four hours was rigid, the tissue of

the primitive bundles quite unchanged, and the nuclei of the sarcolemma invisible.

When carbolic acid is applied to nerves the white substance disappears, and the axis cylinder remains behind when a fibre is cut through. The fat globules are dissolved and form hyaline vesicles.

Dr. Neumann concludes his communication with the following propositions:—

1. Carbolic acid when concentrated is a powerful caustic, the action of which is not confined to the spot at which it is applied; hence its deep penetration into the skin.
2. By it the tissues become transparent without swelling.
3. After intense action of the acid, the individual tissue elements can still be distinctly recognised in the eschar.
4. The action of carbolic acid upon the tissue results rather in a mummification than in destruction.
5. The acid not only acts beneficially upon skin affections generally treated by tar, as eczema, &c., but also upon lupoid ulcerations.

Art. 125.—*On the Anæsthetic Properties of the Tetrachloride of Carbon.*

By A. E. Sansom, M.D.

(*British Medical Journal*, Sept. 7, 1867.)

The introduction of the tetrachloride of carbon into medical practice, although attributed to several other authorities, appears to be really due to Dr. Sansom and Dr. John Harley, who made the first experiments upon this substance as an anæsthetic in the year 1864, and the record of their experiments was made in Dr. Sansom's book on chloroform, published in May, 1865. Other practitioners have subsequently published their experience as to the anæsthetic properties of the tetrachloride, which has been employed on several occasions in the human subject with success. It is said by Dr. Sansom to be pleasant to inhale, and he finds the symptoms of commencing anæsthesia, in his own person, to be not unpleasant, and he has not found any patient object to its administration. It has been employed for the relief of irritation, as in hay-asthma, for subduing pain, for controlling palpitation of the heart, for treating the spasm of chorea, for the induction of sleep, for relieving or abolishing the pains of labour, and for inducing anæsthesia in the performance of surgical operations. Dr. Protheroe Smith has found it relieve the pains of headache, toothache, dysmenorrhœa, and labour. In cases of natural labour the tetrachloride has been employed by Dr. Protheroe Smith, Dr. Black, and Dr. Sansom; and in none of these cases (eight in all) has it manifested any unfavourable effect; and it has greatly relieved, if it has not altogether abolished the suffering. In Dr. Sansom's cases that gentleman came to the conclusion that it increased muscular power, and certainly in no case did it suspend the efforts of labour. In the performance of surgical operations a state of narcotism is necessary;

and it would appear, according to Dr. Sansom, that the prolonged employment of the tetrachloride in such cases is undesirable and likely to be injurious. So far as the earlier stages are concerned, the action of the tetrachloride is beneficial, as it is stimulant, anodyne, and hypnotic, and produces no unpleasant effect; but its ponderous vapour, its insufficient volatility, and the consequent difficulty of its elimination from the system, are sufficient reasons against its employment in anything like large doses. Dr. Sansom remarks that the tetrachloride may be obtained in a state of purity at a small cost, but that at present its manufacture is not perfect, and that some of the other chlorides of carbon are occasionally mixed with it. Some of the specimens which he has examined gave obvious indications of containing bisulphide of carbon, and this is a deleterious contamination. The tetrachloride of carbon may be purified by agitating it with an alcoholic solution of potash, washing with pure water, and subsequently redistilling. On the whole, Dr. Sansom does not regard the tetrachloride as being a perfectly good anæsthetic; but he thinks that, in several instances, it may be advantageously mixed with chloroform, as it has some properties which are antagonistic to those of the latter substance, and may, therefore, modify its action. The use of tetrachloride of carbon may be made to precede that of chloroform; and although he invites further experiments upon the point, Dr. Sansom thinks that a mixture of one part of the tetrachloride of carbon and six of chloroform will continue a safe, as well as agreeable, anæsthetic.

Art. 126.—*On the Action of Bromide of Potassium.*

By MM. Eulenburg and Guttmann.

(*Gazette des Hôpitaux*, No. 77, 1867.)

MM. Eulenburg and Guttman communicated to the Academy of Sciences the results of a series of experiments made by them upon the action of bromide of potassium, which salt they consider exerts a paralysing influence upon the heart and central nervous system:—

A dose of from two to four grammes, administered either internally or by subcutaneous injection, kills a rabbit in from ten to forty minutes. A weaker dose produces only a transient change in the heart's action, and impaired sensibility and motility, preceded sometimes by slight convulsive movements of the limbs. The autopsy in animals killed by the bromide presents no other lesion except a slightly congested state of most of the viscera, and occasionally ecchymoses on the surfaces of the lungs.

The subcutaneous injection of from six to nine centigrammes produces in frogs acute pain, which is frequently followed by fibrillar contractions, and after ten or fifteen minutes by complete loss of motility, reflex action, and sensibility, with arrest of respiration and the lymphatic pulsations, feebleness and slowness of the beatings of the ventricle, extreme feebleness of the peripheral circulation, and finally complete diastolic stoppage of the heart.

If the heart of a healthy frog be plunged still beating into a strong solution of bromide of potassium, its action will cease after five minutes, and the organ will lose its irritability. Muscular tissue when dipped into the same solution, will lose its irritability in the same time.

MM. Eulenburg and Guttmann attribute these poisonous effects to the potassium and not to the bromide. It has been known for a long time that the sulphate of potash administered as a purgative in extended doses sometimes produces serious results, whilst the sulphate of soda is almost harmless.

Art. 127.—*On the Use of Bromide of Potassium and Bromide of Quinine in Nervous Diseases.*

By Dr. Liberali.

(*Archivio Italiano per le Malattie Nervose e per le Alienazione Mentali,* and *The Journal of Mental Science,* July, 1867.)

The above is the subject-matter of a letter from Dr. Liberali to Dr. Biffi. The writer first quotes the conclusions of Dr. Gubler, physician of the Beaujon Hospital, relative to the effects and uses of the medicine, and then refers to his own experiments with it. He used it successfully in 8-grain doses three times a day, in the case of a boy, æt. thirteen, passing into puberty, who had just before had two epileptic seizures and suffered from much vascular erethism. The medicine was continued for three months, and during ten months no return of the fits had occurred. He had also employed it in various forms of mental disorder, particularly where there has been sexual excitement and masturbation—administering 16 grains daily. He tried it in two cases of recurrent mania, but without any decided effect, and places on record the results arrived at by Dr. Salerio, physician of the Asylum of St. Servolo, Venice. This gentleman employed bromide of quinine in numerous chronic and confirmed cases in the asylum, during a period of eight months. Among these cases were eighteen of epilepsy, eighteen of mania with excitement, delirium, total disorder of the intellect and diminished sensibility, and fourteen of intermittent mania. Among the epileptics he could point to little good effected. In six cases no result followed; in four others the attacks became less frequent; in five the intensity of the convulsions was lessened, the heart's action was rendered less tumultuous, the subsequent maniacal paroxysms less protracted; but withal the frequency of the fits continued unabated. Lastly, in three other cases, a three months' interval had elapsed without recurrence of convulsions. Of eighteen cases of mania, in two he had not courage to persevere with the remedy, as they seemed to grow worse; in six the excitation diminished in a few days, and was replaced by tranquil mania with hallucinations; in four others excitement rapidly subsided, but reappeared after eight days, but on the repetition of the medicine recovery ensued, and after three months they were in a state to be discharged; in other three cases, under the persevering use of the drug, the malady, which had been continued, became intermittent, and the disease pro-

gressively declined, and the patients had continued free from it for two months; lastly, in the three remaining instances the excitement ceased, but they continued dull and heavy.

In the case of the fourteen sufferers with intermittent mania, the bromide was administered every eighth day in 12-grain doses; four of them recovered, or at least continued without a relapse for four months; six had a recurrent attack at the end of three months, and on the medicine being resumed, had continued well for one month; so that only one accession occurred in five months, whereas of old one happened monthly; moreover, the accession was mild, and lasted only from one to three days. In two patients the medicine did no good.

Two of the patients suffering with intermittent mania were attacked with erysipelas of the whole head and of the left side. During the course of this malady, for fourteen days these patients were rational and calm, yet no sooner was the erysipelas cured than the mania reappeared. The bromide was now resumed, and soon quietude was regained; and in the case of one of them, along with the reason, whilst the other has remained somewhat heavy and demented.

In intermittent and continued mania bromide of quinine alone was used; but in cases of epilepsy this medicine was given alternately with bromide of potassium, with iron, &c.

The general result attained by the bromides may be said to be, a calming of the circulatory and of the nervous system.

Borucci replies to Lombroso by letter on the disputed relations between genius and madness. We shall, however, not recur to this well-worn dispute, one in the main confined to words.

Art. 128.—*On the Action of Bromide of Potassium.*

By M. Laborde.

(*Gazette des Hôpitaux*, No. 83, 1867.)

M. Laborde presented a paper to the Academy of Sciences, Paris, upon the action of bromide of potassium. His conclusions differ materially from those laid down upon the same subject by MM. Eulenburg and Guttmann.

According to M. Laborde, bromide of potassium does not act as a poison upon the heart; nor does it paralyse the muscles or the encephalon; its primary action is exerted upon the spinal cord, and the essential result of this action is an impairment or destruction in this organ of the property which it possesses of presiding over the phenomena called reflex.

M. Laborde agrees entirely with MM. Eulenburg and Guttmann upon the important practical point of the relative harmlessness of the bromide of sodium, but he does not, like them, attribute the action of the bromide of potassium to the potassium itself.

M. Laborde, in his experiments, instead of introducing the poisonous salt into the stomach or subcutaneous cellular tissue, causes it to be

absorbed by the skin of his frogs. He places it unmixed in the state of very fine powder upon the interdigital web, previously stretched: he then adds a few drops of water, and absorption takes place very rapidly.

Art. 129.—*On the Action and Uses of Phosphate of Soda in Small Doses.*

By Wm. Stephenson, M.D., Extra-Physician to the Royal Hospital for Sick Children.

(*Edinburgh Medical Journal*, October, 1867.)

Phosphate of soda is described in our books on therapeutics, in an almost stereotyped form, as a mild saline aperient, well adapted for females and children. Its action is such, however, only when given in large doses, and in the present day it is but rarely prescribed. Dr. Routh, in his work on "Infant Feeding," recommends it on other grounds. It is an important salt in the animal economy, and one often sadly deficient in the food of children. A further reason for its use he bases on the experiments of Dr. Marcet, who first pointed out that the fatty acids are converted into an emulsion by its agency, and that they thus may become more easily assimilated. This is certainly a point deserving more attention at the hands of medical men than it has received. Further than this, Dr. Stephenson says he has not found any special therapeutic action ascribed to it when administered in small doses. That it has such, however, it is the object of this paper to show.

The first case Dr. Stephenson gave it in was a child, four months old, who was being artificially reared on the bottle, and although healthy in every other respect, was somewhat confined in the bowels, having but one motion each day, copious, but dry and white, exactly like coarse white chalk and curdled milk. A pinch of the phosphate of soda was ordered to be added to each bottle of milk. The result was striking, for the very next day the motions were in every way natural and healthy. Dr. Stephenson had afterwards several occasions of observing in this child the same action under similar circumstances.

The cases for which he now recommends it are chiefly the following:

In infants who are being artificially reared, and who are liable to frequent derangement of the bowels; also where the phosphatic elements in the food seem deficient, or where articles of food rich in phosphates, such as oatmeal, disagree; where, from the character of the motions, there is a deficient or defective secretion of bile. It is thus of service in cases of chalky stools or white fluid motions. Dr. Stephenson has also found it of service in many cases of green stools. In diarrhœa, generally, it is more difficult to distinguish the class of cases. In simple diarrhœa, such as we frequently meet with in the summer months, he has not found it of much service alone, although it may be of use when given in combination with other remedies. It is chiefly in that class of cases which are more properly termed duodenal

dyspepsia that it is of benefit. Diarrhœa after weaning is generally of this nature, and the cases are often chronic, or of some weeks' standing —the mother generally having exhausted her own and the nearest druggist's resources before applying for advice. It is also of service in some cases where the diarrhœa is due to some general cachexia.

In adults it has relieved constipation when taken in drachm doses in the morning. Dr. Stephenson has seen benefit derived also from it where there was a feeling of fulness and sometimes pain in the epigastrium some hours after taking food. In one case of phthisis, the patient said he always felt lighter and better when he took it after his food. He cannot but associate its action with the recorded success derived from the use of hypophosphite of soda in cases of phthisis; and he is inclined to conjecture that this remedy is to be found beneficial in cases where duodenal dyspepsia is well marked, and that the good results are due to the aid in the assimilation of fatty matter.

The doses in which Dr. Stephenson generally prescribes it are, for children, from 4 to 10 grains in the food, and for adults from 20 to 40 grains dissolved in water, and taken after meals. He has several times observed, that when given in too small quantities it had not the same effect, so that it is well to begin with a large dose.

Art. 130.—*On the Action of Crystallized Sulphate of Soda upon Specks on the Cornea.**

By M. D. de Luca.

(*Gazette des Hôpitaux*, No. 69, 1867.)

"In my long-continued practice I have found it almost impossible to remove by ordinary means the corneal spots produced by various causes, and in many instances by the action of remedies applied to the eye. I have had occasion, also, to observe that laudanum and alcoholic liquid, and also preparations of tannin, in acting upon the eyes produce specks which may persist during the continuation of the same treatment. In fact, it is known that alcohol and tannin will coagulate albuminous materials, and cause them to lose their normal transparency. I have therefore rejected in my ophthalmic practice those applications which may modify in any way the transparency of the parts entering into the formation of the eye.

"After many fruitless attempts, I thought that crystallised sulphate of soda, which has the property of holding in solution the fibrin of the blood, might act favourably on the eyes, by causing a total or partial disappearance of the opacities of the cornea.

"In my first trials I used a cold saturated watery solution of the salt, and applied it in drops to the globe of the eye several times during the day. After a few days the patient improved, and the spots diminished

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* Paper read before the Academy of Sciences.

in extent; but it was readily perceived that the action of the liquid must be much prolonged in order to produce any important result.

"I then used the same salt in a solid form, and as a very fine powder. I allowed pinches of this powder to fall upon the eyeball, after placing the head of the patient nearly horizontally, and left it to dissolve in the secreted fluids of the eye itself. The results obtained by this proceeding were satisfactory, for the spots commenced to disappear after a few days, and the patients, who before the application of the sulphate could not see anything, were enabled not only to distinguish light from darkness, but even to perceive almost distinctly movements that were performed in front of them after the repeated use of the powdered salt, which was applied to the globe of the eye twice every day.

"The patients who were treated in this manner experienced a very agreeable sensation of coolness after the application of the sulphate of soda to the surface of the eye; this sensation is felt when the powder commences to pass from the solid to the liquid state, and is dissolved in the lachrymal and other fluids of the eye."

Art. 131.—*Dr. Richardson on the Bichloride of Methylene as a General Anæsthetic.*

(*British Medical Journal*, October 19, 1867.)

On Tuesday, the 8th instant, Dr. Richardson commenced his course of private lectures for the present session, taking as his subject "Bichloride of Methylene as a General Anæsthetic."

He said that it was still necessary to find some general anæsthetic which should be safer than chloroform, inasmuch as there were, in many cases, moral objections in the way of using local anæsthesia, however perfectly it might carry out the surgical indications. Patients were often averse to knowing that something was being done to them; and, again, the hearing by the patient of any remarks made by the operator to his assistants sometimes had a bad effect. Dr. Richardson had, therefore, made a number of researches on the substances allied to chloroform; and on the present occasion brought forward the bichloride of methylene as most nearly fulfilling the objects sought for.

The lecturer explained briefly the arrangements by chemists of organic compounds in series—the methylic, ethylic, propylic, butylic, amylic, &c.; and pointed out that the distinguishing feature of these compounds was the presence of carbon combined with hydrogen or some other element. He called special attention to the methylic series, being compounds of the organic radical methyl ($C H^3$). This, combined with hydrogen, chlorine, iodine, etc., gives marsh-gas ($C H^4$); chloride of methyl ($C H^3 Cl$); iodide of methyl ($C H^3 I$), &c. He also pointed out how new substances were formed by the substitution in some member of the series of one element for another: thus, starting with chloride of methyl=$C H^3 Cl$, by substituting an atom of chlorine for an atom of hydrogen, there is formed bichloride of methylene=$C H^2 Cl^2$. By again substituting an atom of chlorine, we get chloroform=$C H Cl^3$. And, finally, by replacing the remaining

atom of hydrogen by chlorine, there is formed tetrachloride of carbon=C Cl^4.

This bichloride of methylene, chloroform, and tetrachloride of carbon, are consecutive members of a substitution-series. All possess anæsthetic properties; but they differ in certain physical qualities, which have a bearing on their anæsthetic action. Bichloride of methylene boils at 88° Fahr., and has a specific gravity of 1·34; chloroform boils at 142°, and has a density of 1·49; tetrachloride of carbon boils at 172°, and its density is 1·59.

Dr. Richardson observed that the late Dr. Snow had propounded a theory that anæsthetics produced their effect by interrupting oxidation in the body, founding this idea on the fact that the vapour of chloroform instantly extinguished a lighted taper. Dr. Richardson, however, showed that, whilst this effect was produced by chloroform and by tetrachloride of carbon, a taper plunged into bichloride of methylene—a compound containing more hydrogen than the others—set fire to the vapour. This, he said, was an objection to Dr. Snow's theory.

Bichloride of methylene (of which specimens were handed round for examination) is a fluid closely resembling chloroform in general appearance and in smell, but differing, as already mentioned, in certain physical properties. When inhaled, it produces anæsthesia more slowly than chloroform; the anæsthesia, however, lasts longer, and complete recovery is more rapid. As far as Dr. Richardson had been able to judge from experiments on animals, its inhalation is less likely to be followed by death than that of chloroform; and the retention of muscular irritability after death is of much longer duration. When it produces death, the circulation and respiration appear to cease nearly at the same time—the respiration somewhat sooner than the circulation.

To show the relative effects of bichloride of methylene, chloroform, and tetrachloride of carbon, Dr. Richardson placed three pigeons in glass jars, and caused each of them to inhale the vapour of one of the above-named anæsthetics. The pigeon to which chloroform was supplied was the first to become insensible; on being removed, and placed on the table, it gradually recovered in a few minutes. The bichloride of methylene was longer in producing anæsthesia; but the duration of the insensibility was longer, and the animal recovered more suddenly than the other. The production of anæsthesia with the bichloride of methylene appeared to be attended with less acceleration of the respiration than when chloroform was used. The animal treated with tetrachloride of carbon remained unaffected for a much longer time than the others, owing to the high vaporising point of the compound and the coldness of the atmosphere. The vapour, when it at last began to act, produced some sickness, which was followed by anæsthesia.

In concluding, Dr. Richardson said that the bichloride of methylene, like chloroform and tetrachloride of carbon, produced sickness. This was, as far as he could see, the only drawback to its use. It might be possible at some time to discover an anæsthetic which should be free from this objectionable property. Such a body must be sought for among those having, like the bichloride of methylene, a low boiling point, and a comparatively low specific gravity.

In an elaborate paper on this new anæsthetic published in the *Medi-*

cal Times and Gazette of the 2nd of November, Dr. Richardson, in summing up his researches, gives to the bichloride of methylene the following characters :—

1. It is an effective general anæsthetic, producing as deep insensibility as chloroform.
2. In action it is rather more rapid than chloroform, but to develope effects more of it is required, in the proportion of six parts to four.
3. It produces a less prolonged second degree of narcotism than other anæsthetics.
4. When its effects are fully developed, the narcotism is very prolonged, and is reproduced with great ease.
5. Its influence on the nervous centres is uniform, and it creates little, if any, disturbance or break of action between the respirating and circulating functions.
6. Its final escape from the organism is rapid, so that the symptoms of recovery are sudden.
7. In some cases it produces vomiting.
8. When it kills it destroys by equally paralysing the respirating and circulating mechanisms.
9. It interferes less with the muscular irritability than perhaps any other anæsthetic.
10. It combines with ether and with chloroform in all proportions.

Dr. Richardson says he has proved the agent, by experiment on the lower animals, to be a good general anæsthetic. He has inhaled it himself with safety, and he has administered it to the human subject with success in the extremest operations for which general anæsthesia is demanded.

Art. 132.—*Deodorisers, Disinfectants, and Antiseptics.*

(*British Medical Journal,* November 9, 1867.)

Great confusion prevails in the use of these words, and in the meaning attached to them. They result not merely in verbal inaccuracies, but in chemical errors, and serious blunders of the unscientific kind, in the application of chemical substances for sanitary uses. The following observations of Dr. Calvert, while especially directed to the demonstration of the advantages of carbolic acid, draw important distinctions between it and substances which act only as disinfectants—such as bleaching powder and sulphurous acid; or those substances which are deodorisers—as chloride of manganese, green copperas, nitrate of lead, &c.

"*Deodorisers.*—All substances merely acting as such are neither disinfectants nor antiseptics, as they simply remove the noxious gases emitted from organic matters whilst in a state of decay or putrefaction, and as they do not possess the property of arresting decomposition or fermentation, it is no proof that the source of infection has been destroyed; for noxious smells and offensive gases are not themselves the real source of contagion, but merely indicators of its existence—the real source of disease and contagion being due, as proved by the latest investiga-

tions in science, to microscopic spores floating in the atmosphere, and which, by their ulterior development and propagation, are believed to be the true source of contagion.

"*Disinfectants.*—Under this head may be classed bleaching-powder, or chloride of lime, sulphurous acid, and permanganate of potash; they first act as deodorisers, and then as disinfectants, because, if employed in large quantities, they will so thoroughly oxidise or act upon organic matters as to prevent them from again entering, at least for a short period, into decomposition; but, if the organic substances so acted upon are exposed to the atmosphere, they will again experience decay and putrefaction.

"*Antiseptics.*—Antiseptics, such as corrosive sublimate, arsenious acid, essential oils, carbolic acid, &c., act as such by destroying all source of decay and decomposition; that is to say, they will destroy or prevent the formation of the germs of putrefaction and fermentation, without acting upon the mineral or vegetable matters present. The advantage of their use is, therefore, that they act, when used in small quantities, upon all organic matters in a state of decay. Further, they are deodorisers, for they prevent the formation of offensive odours, and consequently they may be considered as antiseptics, disinfectants, and deodorisers. The great advantages which carbolic acid possesses over all other antiseptics are, that it cannot be used for any illegal purpose, as arsenic and corrosive sublimate; and further, that its antiseptic properties are so powerful, that a few thousandths of it will effectually prevent the putrefaction of substances, such as glue, blood, urine, fæces, and the fermentation of all vegetable matters, such as flour, starch, sugar, &c.

"Owing to the inducements which have been held out by some traders, large quantities of a fictitious mixture have been sold to the public as carbolic acid. To enable purchasers to protect themselves from fraud, the following test is supplied on the authority of Mr. W. Crookes, F.R.S.: 'Commercial carbolic acid is soluble in from twenty-five to seventy parts of water, or in twice its bulk of a solution of caustic soda, while oil of tar is nearly insoluble. To apply these tests—1. Put a teaspoonful of the carbolic acid in a bottle; pour on it half a pint of warm water; shake the bottle at intervals for half an hour, when the amount of oily residue will show the impurity. 2. Dissolve one part of caustic soda in ten parts of warm water, and shake it up with five parts of the carbolic acid. As before, the residue will indicate the amount of impurity. These tests are not given as having any pretension to scientific accuracy; but as affording persons who are in the habit of using carbolic acid, a rough and ready means of seeing that they possess the right article.'"

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

Art. 133.—*Clinical Lectures on the various Risks of Operations.*

Delivered at St. Bartholomew's Hospital by
James Paget, F.R.S.

(*The Lancet*, July 6 and 13, August 10 and 24, 1867.)

Among the various differences of patients, difference of age is probably that with which we may connect the most regular average difference in capacity to bear operations. Mr. Paget believes that after two or three years old, the increase of age is attended with a proportionate increase of liability to death and other ill consequences of operations.

"Young and healthy children," Mr. Paget says, "are chiefly in danger through the shock of operations, and they bear pain very ill—it adds much to the danger of the shock. But if the shock and pain be well passed, they are in less risk than older patients. Especially, they are singularly little liable to pyæmia after wounds—a strange contrast to their liability to it in association with acute necrosis.

"But the chief interest in connexion with age is in the cases of old persons, for among them are patients in whom nearly every risk of operations rises to its maximum. Nor will this seem strange if you consider how many advantages for the bearing of injuries old age brings with it. The longer a man lives after middle age, the more likely is he to have some organic disease, the more certain is he to have many degeneracies. Hence, to name but one source of trouble, the tardy circulation, and the various congestions due to mere sinking of the blood, not in the lungs alone, but in the liver and intestines and all other dependent parts—facts to be much considered in regulating the postures of old people after operations. But the extreme of unfitness for injuries you may see in some of the poor old creatures on whom we are forced by glimmers of hope to operate for hernia. They are so near death that, temper it as we may, the least shock kills them.

"But among the old there are even greater differences than among the younger in the ability to recover from operations; and age, if reckoned

by years, is not the only thing in them that we must estimate. Years, indeed, taken alone, are a very fallacious mode of reckoning age; to a practised eye, looks are much less deceptive. Even among those old patients to whom you cannot impute disease, you may easily, by their appearances, mark out some groups very different in their bearing of injuries. They that are fat and bloated, pale, with soft textures, flabby, torpid, wheezy, incapable of exercise, looking older than their years, are very bad. They that are fat, florid, and plethoric, firm-skinned, and with good muscular power, clear-headed, and willing to work like younger men, are not indeed good subjects for operations, yet they are scarcely bad. The old people that are thin and dry and tough, clear-voiced and bright-eyed, with good stomachs and strong wills, muscular and active, are not bad; they bear all but the largest operations very well. But very bad are they who, looking something like these, are feeble and soft-skinned, with little pulses, bad appetites, and weak digestive power, so that they cannot, in an emergency, be well nourished.

"The old are, much more than others, liable to die of shock, or of mere exhaustion within a few days after the operation. Their convalescence is often prolonged; and you may expect to meet sometimes with great disappointment in having your old patients die with some slight casual disease, as if exhausted by the long expense of vital power in healing large wounds. They get all but well; and then, after seeming for some time stationary, they fade and waste and die. They fulfil what I have often told you of the diseases of the aged: that there are some to whom convalescence is more dangerous than disease.

"You must choose for them, if you can, short and gentle operations; and be sparing of hæmorrhage; and make wounds that may not lead to long suppurations. You must keep them warm, and not feed them beyond their real necessities, nor keep them long recumbent. Your cares must be doubled when your operations are on the lower limbs, or the lower part of the trunk, or on the back; for in operations on these parts the risks, both local and general, are much greater than in the parts above the heart.

"In saying these things about the old, I have had in view only those patients who may call themselves "well for their age," and in whom you may find no signs of disease. Infirmities they have—degenerations and decays accumulated and perhaps premature, yet not diseases. Now let me add, that of all the conditions of disease or imperfect health of which I have next to speak as influencing the results of operations, there is no graver complication than old age, unless, indeed, it be habitual intemperance.

"And first, as to the influence of various constitutions and chronic constitutional diseases, as I suppose them to be, unattended with any considerable organic disease, except that which requires the operation. Scrofulous patients, whether old or young, have, I think, no special liability to the fatal consequences of operations, except in so far as they are feeble and may die (though they rarely do) through slow exhaustion, or the gradual development of some internal organic disease. They seem not very liable to pyæmia, erysipelas, or other of these sore plagues.

"In the large majority of cases, especially the chronic cases, the removal of a scrofulous part is followed by improved health. Still, remember, the operation is finally effective only against that part; the patient may remain scrofulous, and may need the same constitutional treatment after, as before, the operation. Therefore, before you operate, make sure, if you can, that the patient, especially if he is old, is one who can stand prolonged confinement. Have this in mind when you have a choice between two or more operations; and after the operation take care that the patient's general condition is helped with fresh air and fit food and cleanliness, and all other good means that you can provide.

"You will sometimes have to operate on syphilitic patients; and you will find them not bad subjects, except in so far as their syphilis may have made them very feeble or cachectic, or, in rarer cases, may have affected their internal organs.

"Incisions through, or within the range of contact of, inoculating sores, will be inoculated, and become chancrous; but I have seen no worse mischief than this in those with primary syphilis.

"I have never had occasion to operate on a patient with acute rheumatism. In those with chronic rheumatism, or subject to it, I have seen no mischiefs that could be ascribed to their constitutional defects.

"Of the gouty, in reference to their capacity to bear operations, I think that much worse has been said than they deserve. I have, in at least three instances, seen patients attacked with acute gout shortly after capital operations; and the progress of good recovery was in none of them impeded. One of these cases was that of a fat, plethoric, active man, from whom I cut out a cancerous breast. On the next day gout set in with a furious severity, worse than he had ever had it; yet his wound healed, and he recovered from all the effects of his operation as well as any healthy person could have done.

"I have seen no greater troubles in patients whom I have known to be subject to gout or born to it; and I therefore believe that the disrepute of gout for making men unfit for operations is due to the fact that, as gouty people grow old, they become sooner and more certainly than others subject to degeneration of the kidneys, heart, arteries, and other internal organs. These, and not merely gouty disposition or constitution of the blood, impair their power of bearing injuries and operations. Look sharp for these organic defects and avoid them, and then I believe you will find your gouty patients as fit for operations as others of the same ages and habits of life, provided, of course, that you correct, as far as you can, any actual disturbances of function.

"Cancerous patients are certainly not bad subjects for operations, or, at least, not worse than others of similar age and general condition. Many, indeed, being operated on in the early stages of the disease, are, for their age, in a full average of general good health; and even in those on whom operations are advisable though they are cachectic, it is often remarkable how well their wounds heal, and what a revival of power they display."

The foregoing, so far as Mr. Paget has been able to learn them, are the various risks of patients with admitted morbid constitutions.

"Plethora, pure and simple, is not a bad condition for operations. The

over-fat are certainly a bad class, especially when their fatness is not hereditary, but may be referred in any degree to their over-eating, soaking, indolence, and defective excretions. The worst of this class are such as have soft, loose, flabby, and yellow fat; and I think you may know them by their bellies being pendulous and more prominent than even their thick, subcutaneous fat accounts for; for this shape tells of thick omental fat; and, I suppose, of defective portal circulation. I know no operations in which I more nearly despair of doing good than in those for umbilical hernia or for compound fractures in people that are over-fat after this fashion. Nothing short of the clearest evidence of necessity or of great probable good should lead you to advise cutting operations in people of this kind. Do lithotrity for them rather than lithotomy; incline against amputations for even bad compound fractures; and, whenever you can—as, for instance, for cutaneous cysts, hæmorrhoids, and the smaller examples of scirrhous mammary cancers,—use caustics rather than the knife or ligature.

"All these warnings must be doubled for the intemperate. But you must be on your guard to detect a good deal of drunkenness of the soaking kind which is not notorious and not confessed. Be rather afraid of operating on those, of whatever class, who think they need stimulants before they work; who cannot dine till after wine or bitters; who always have sherry on the sideboard; or are always sipping brandy-and-water; or are rather proud that, because they can eat so little, they must often take some wine. Many people who pass for highly respectable, and who mean no harm, are thus daily damaging their health, and making themselves unfit to bear any of the storms of life.

"I have had no sufficient experience among teetotalers to enable me to speak with any certainty of their capacity for bearing operations. I cannot doubt that a patient trained, all his life, to habits of rigid temperance would bear injuries of all kinds better than the average of men; but people of this sort are not commonly those with whom you have to do under the name of teetotalers. These are, much more commonly, such as have been intemperate, or, to say the least, imprudent, in their manner of living, and have then wholly changed their habits, and lived without any stimulants whatever. Of such people I have no good opinion when they come to be the subjects of surgery; for they seem to retain the bad liabilities of the intemperate long after they have given up their bad habits. I would not adopt the opinion that I have heard some express, that teetotalers are worse patients than drunkards; but I should always expect that a very long period of reformation would be required to free a man from the damages he has sustained by intemperance.

"Over-eating is not commonly supposed to lead to any such risks of life as over-drinking does; yet I believe that you will find, in operative surgery, that among the habits that increase the risks of life, this may stand not far off drunkenness, especially if the over-eating is of meat and other nitrogenous foods.

"There are many patients to whom you cannot assign a morbid constitution, but who are feeble in all their processes. No organ, it may be, works wrongly; but no organ works with due power. Many children are in this condition, and some adults, whose condition has

been admirably portrayed by Dr. Chambers in his book on Italy. They are not always bad subjects for operation. Repair will probably take place in them as feebly as any other vital process; but I believe they are not particularly liable to the diseases after operations from which the greatest risks arise. Children of this class you should be cautious of operating upon for hare-lip or other such defects as do not urgently require interference; and in adults, if you can defer operations to some period of better health, you should do so; but all this for fear of local failure rather than of incurring any unusual risk of life.

"You often hear me speak of patients as 'cold-blooded.' I do not know that the whole of their blood is less warm than that of ordinary persons, but some of it is, for their hands and feet are seldom or never naturally warm; and some of them feel, when you touch them, as cold as reptiles in the same climate—their hands and feet feel as moist and damp as toads and frogs. The circulation in all these cold parts is of course very slow, and probably it has not a due velocity in any of their textures; for, wherever you can see vascular parts in them, they are of a duller tint than they should be, dusky, and with a purple hue rather than a rosy one; and with these signs you find small pulses, and general indications of slowness in all vital processes. They digest slowly, and are very prone to constipation; and the women amongst them menstruate disorderly, and are liable to headaches and backaches, and a variety of nervous symptoms. People of this kind are so numerous that you will do well to look out for them among your cases, and to treat them specially with iron, with particular regard to this cold-bloodedness and slowness of life. They are not bad subjects for operations; rather I should reckon them amongst the good ones; for they have always seemed to me singularly little liable to fall into the troubles of erysipelas, or pyæmia, or any other disorders of the blood; and the healing of their wounds is not apt to be interrupted. Observe their defects; minister to them with warmth and good food, but not high stimulants or great eating, and they will do as well as any you will have.

"And, to finish this account of the influence of diseased or disorderly constitutions on the results of operations, let me tell you of the people that are commonly called 'nervous.' I know none who more generally pass through the consequences of operations with impunity than do those who are commonly called nervous, and whose nervousness consists, if I may use the expression, in too great a vivacity of their whole cerebro-spinal system.

"Sometimes you may be forced to operate during the continuance of an acute disease; and although the circumstances of the case may give you little choice as to whether you should operate or not, it is well to be aware of the degree in which the acute disease may influence the result of your proceedings.

"Patients with ague bear operations as well as others of the same class; but, in the course of their recovery, they may alarm you by having one or more ague-fits, exactly resembling those that precede pyæmia. And more than this: if a patient has ever had ague, and, even many years afterwards, you perform an operation on him, ague may seem to be renewed in him at some short time after the shock, or loss of blood, or

whatever other damage he may have sustained. I have so often noticed this, that, whenever I hear of severe rigors following on any operation, I ask for a previous history of ague; and I have sometimes found that the patient has almost forgotten it in the long lapse of time since he suffered from it.

"The question of amputation often arises when the patient is suffering with erysipelas, or with that spreading inflammation of the cellular tissue which is closely akin to erysipelas. I have often said to you that I look upon a secondary amputation as a confession of either a mistake or a disappointment. Either a primary amputation ought to have been done, and by mistake it was left undone; or if for any apparently sufficient reason it was not done, the necessity of doing the secondary amputation implies the disappointment of just hopes. I have spoken with this disparagement of secondary amputations because the necessity for them is so likely to come when the probability of success is reduced by the operation being performed while the patient is in acute disease. I cannot tell you the numerical increase of risk; but I believe that the mortality after amputations during erysipelas, or spreading cellular inflammation, would be found very much greater than that of primary amputations, or of secondary amputations done for merely wasting suppuration or irreparable local damage. I scarcely know any set of cases in which I have operated with less hope than in those of compound fracture, or similar injuries, in which the question is raised whether a patient, who seems dying with acute disease, may have what is called a chance of his life by amputation. In the large majority of such cases the chance by operation seems to me less than that of keeping the patient alive by the ordinary treatment of erysipelas, or whatever other acute disease he may be suffering with.

"What are the chances of recovery from operations done during pyæmia? I think I can answer safely, that in acute pyæmia, in which the patient has rigors once or more in a few days, and profuse sweatings, with very rapid pulse and breathing, and with delirium, and rapid wasting, or with dry tongue and yellowness of skin, or any considerable number of these symptoms, the probability of good is so small, and of harm so great, that you should refuse to operate. But in chronic pyæmia, when the disease requiring operation adds largely to the exhaustion from which the patient is suffering, the removal of the disease may be very proper. Suppose, for example, a patient with a crushed foot or a crushed hand, in whom signs of acute pyæmia have recently appeared. Whatever be the state of the injured part, I would not add the damage of an amputation to the burden that the patient already has to bear. But if the pyæmia have become chronic, attended with only wasting and sweating, and the formation of abscesses here and there, and if the injured part be manifestly useless, and a source of irritation or of exhaustion, the mere existence of pyæmia in the chronic form would not turn me from the operation required by the part.

"The occasions for operating in any other than these acute diseases are not many, but in diphtheria or croup you may have to perform tracheotomy, and during peritonitis a hernia may require operation. These are all cases of necessity, and their results are not materially affected by

the general acuteness of the disease. If their local good is accomplished, the healing of the wound and the recovery of the patient may occur as in any ordinary case, unless, indeed (which I have never seen,) a wound after tracheotomy should itself become diphtheritic.

"Let me tell you what I can of how various local diseases influence the results of operations.

"Amongst affections of the organs of digestion, I have no experience whatever of the influence of organic disease either of the stomach or intestines. From ordinary gastric dyspepsia, associated with a moderately healthy condition of other organs, you will very rarely find any serious results on the consequences of operations. I have seen nothing worse than vexation from flatulence, heartburn, and the like symptoms of what we suppose to be mere functional derangement of the stomach. They need that the patient should be carefully dieted, but nothing more. But I believe that dyspepsia may become a serious complication in any of the very few cases in which large feeding is necessary, especially if it be such dyspepsia as is often attended with vomiting. You should always inquire about such symptoms as even occasional vomiting; for besides those troubles that may arise after operations, I think that of an untoward bearing of chloroform must be reckoned as among its risks. Certainly, some of the worst effects of chloroform I have seen, with long-continued vomiting, and the consequent great exhaustion, have been in persons in whom it appeared to have aggravated a natural irritability of stomach. Remember, too, what I have said about feeble digestive powers in old persons, and how their stomachs are apt to knock-up after operations.

"Among the diseases of the intestines, dysentery, and even the effects of dysentery long past, prove themselves very grave complications. They were so, especially, in the Crimean war; happily in civil practice we very rarely have to consider them.

"The nearest likeness to dysentery which we see is acute diarrhœa. Except in cases of urgency, you will, of course, never operate till this is checked; but in urgent cases, especially in those of irritative fever with cellular inflammation, diarrhœa adds very largely to the risk. And so it does, I think, in patients in whom it precedes the descent of a hernia that becomes strangulated. This is a more frequent event than you might suppose, and it seems to me always dangerous when, soon after the strangulation of a hernia is relieved, the bowels act irritably, and with copious liquid evacuations. It is one of the many instances in which you will find, when dealing with strangulated hernia, that you are not dealing with merely mechanical difficulty in the intestines, but with some disease which has produced or favoured the strangulation, and upon which your operation has no good effect whatever. Besides, speedy movements of the bowels after operations for hernia are, I think, always injurious. They destroy the quietude which is requisite for the recovery of all the disturbed and damaged parts.

"An accidental diarrhœa is only serious when it happens in persons much exhausted. In those that are habitually subject to diarrhœa, if an attack of it happens after an operation, it is not likely to do any harm. But in children and in old people, and in those that are exhausted, diarrhœa may be very serious; especially it may be so in children, in

whom it comes on after operations of all kinds, and in whom you must check it abruptly with opium or any other means.

"I hardly need tell you that it is well to have a patient's bowels properly open before an operation (everybody looks to that), and to see that, as far as possible, the intestinal secretions are healthy. But, respecting constipation, I think its importance has been over-stated. Repeatedly, after operations for hernia, I have observed that no patients do better than those in whom, without any sign of abiding strangulation, the bowels do not act for four, five, or even more days after the operation. And in cases of operation for fissured perineum and vesico-vaginal or recto-vaginal fistula, in which one used formerly more than now to keep the bowels at rest for many days, I never saw any general disturbance of the health due to the mere inaction of the bowels. It was, indeed, often remarkable that while the action of the bowels was arrested for ten, twelve, or more days, the patient passed through the ordinary process of recovery from the operation in exactly the same manner, with the same reaction, the same recovery from reaction, and the same gradual regaining of power, as those do whose bowels act daily. From mere constipation, therefore, you need not anticipate any generally bad result. I do not recommend you to be altogether unmindful of it; but you need not, as some do, consider it the matter of chiefest importance. There is, however, a risk from constipation against which you must very carefully guard. In some people a difficult or very copious action of the bowels is an exhausting process; and in these the exhaustion, after many days' inaction, may be a serious matter. Therefore always give directions that in their cases, and, indeed, in all cases after long constipation, wine or food is to be given after, or even during, any great action of the bowels. I believe I have known a life lost through neglect of this rule.

"Among diseases of the digestive organs which occur in sufficient frequency to affect the risks of dying after operations, I suspect that none are of greater importance than those of the liver. Of course, one's experience of them cannot be sufficient to define the several degrees of risk connected with each disease. As a general rule, however, you should be cautious in operating upon those whose biliary secretions are habitually unhealthy; or those who have been often jaundiced; or those who bear that sallow, dusky complexion, with dry skin, and dilated small bloodvessels of the face, and sallow, bloodshot conjunctiva, which commonly tell of what is supposed to be an 'inactive liver.' Many of this last class are not temperate; many are sedentary and indolent; many suffer habitually with hæmorrhoids; probably all have some abdominal plethora; probably, all their digestive organs act as ill as their skins do. But whatever we may guess to be the special defect of these organs, you need not doubt that operations upon those who have them are attended with more than the average risk, and that when you are obliged to operate you must do so with more than ordinary care and caution. And there are graver diseases of the liver than these, which you must look to; especially the enlargement of the liver, whether amyloid or fatty, which is not rarely coincident with chronic diseases of the bones in children and young persons. This is undoubtedly a frequent cause of death after resection and amputation, from which in

healthy children the mortality is so small. In some, it merely seems to hinder recovery, and they die slowly exhausted; in some, I believe you will find it the chief reason for such defective healing as leads to secondary hæmorrhage. The fear of consequences such as these may give you the rule never to operate for chronic diseases of bones or joints without including a specially careful examination of the liver; for although its diseases may be comparatively most frequent in young patients, they may be found at any age.

"Diseases of the heart are, on the whole, much less serious hindrances to recovery from operations than you might suppose. Doubtless, patients with very weak fatty hearts are in some greater danger from chloroform than others are; but when it is cautiously given, even these may take it safely.

"While speaking of diseases of the heart, let me tell something of certain manners of its acting, even when we believe its structure to be healthy. People with slow pulses bear operations just as well as those who, in all other respects than that of their heart's action, are like them. And people with habitually rapid pulses are not bad patients, if the rapidity of the pulse be not associated with some organic disease. Especially, you will find a considerable number of children and young persons, chiefly sensitive girls, whose pulses are rapid enough to frighten you Observe whether the respirations are in the same proportion rapid; if they are not, the respirations, and not the pulse, must be your guide in judging what is the patient's state. Many a time I have pointed out to you a pulse beating 120 or 140 times in a minute, and said that it meant no mischief, because the respirations were not more than 20 or 25.

"And there is a set of cases in which you must always apply this rule of checking the indications of the pulse with those of the breathing—namely, cases of hæmorrhage. After large bleedings, when the patient recovers from their immediate effects, the pulse is usually hastened, and the breathing is retarded; so that with a pulse of 120 or more, there may be not more than 10 respirations in the minute.

"The influence of diseases, or rather of degeneracies, of arteries is not easy to measure, for the cases are comparatively few in which one would have to operate on patients whose arteries are degenerate.

"Diseases of the veins are so generally local that they have little bearing on any question as to the general risks of operations.

"Diseases of the respiratory organs bear with very unequal and uncertain force on the risks of operations. Of course one can speak only of the influence of the more common and chronic diseases; for no one would think of operating during any acute disease.

"Chronic bronchitis, or that which has more often to be considered, a great tendency to bronchitis, is a grave complication; not because it originates serious mischief, but because, if such mischief come from other sources, the bronchial difficulty adds very largely to the danger. I have never seen reason to believe that bronchitis renders patients more liable to erysipelas, pyæmia, or any such disease of the blood; but if these happen, or indeed if any complication comes on after an operation, the imperfect respiration, the restlessness, the loss of sleep, and all the other troubles of bronchitis, diminish, by many degrees, the chances of re-

covery. And so, too, bronchitis must be feared, especially in old people whose convalescence is not quite complete, and still more in those among them who have had erysipelas about the head and face. All these things must make you reckon that a patient habitually subject to bronchitis, and, therefore, I suppose I may say also, a patient with emphysematous lungs, is one in whom all operations are extremely hazardous, and all the more so because few elderly people who have emphysematous lungs are quite sound in their other integral organs. The guards which you must set in any such case in which you have operated are evident. Especially you must look to the air; for these are the cases, more than any others, in which you must try to accomplish the difficulty of providing air which is at the same time pure and warm.

"But the great interest of the diseases of the respiratory organs, in their relation to operative surgery, is in the question as to what may be done with a patient who has both phthisis and some local disease that can be surgically removed, or in any way cured by an operation.

"It has often been suspected that the removal or cure of some local disease of a phthisical person may badly influence the disease of the lungs. I know no sufficient evidence for such a suspicion, if it be meant that phthisis is made worse by the mere fact of the cure of any other disease; as if the diseased part were something like an excretory organ, the removal of which would throw an increased labour of excretion on the lungs or some other part. But, certainly, the fever and other accidents that may follow an operation may do special harm to a tuberculous patient.

"In all cases of acute or progressive phthisis great risk is incurred by almost every operation. The risks of the excitement of many days of feverish disturbance, and of loss of food, and of pain, and all such consequences of operations are much above the average; to say nothing of the special chances of exciting some pneumonia. I should follow the rule of never performing any considerable operation, if I could help it, on any person whose phthisis is in quick progress. Small things may be done on them for the relief of great distress or pain; but larger things had better be left undone, even if they should never be done at all.

"The case is very different with chronic and suspended phthisis. In these it is often advisable to incur the somewhat increased risk of even a large operation in order to free the patient from the distress and wasting of a considerable local disease such as that of a joint; and I should be disposed to say that it is always advisable to cure, if you can, a small disease such as fistula. I say if you can, for you will often be disappointed. In the tuberculous, as in the strumous, your wounds will remain for weeks unhealed, and, perhaps, be unsoundly healed at last. Still, as to the mere question of operating, I have seen so many advantages accrue to patients with chronic phthisis from the removal of limbs with joint-disease that I am disposed to speak strongly as to the general propriety of whatever operations they may reasonably require.

"Certain diseases of the kidneys increase the risk of operations more, I think, than do the equally chronicd iseases of any other internal organ. And the chief of these diseases are, first, those which are associated with the constant existence of albumen, or with the frequent or constant presence of pus in the urine. In the first group, those of which

we commonly speak as cases of albuminuria, the risks of erysipelas and of pyæmia seem to reach their climax. You will find it a safe rule never to perform any operation without an acquaintance with the manner in which the patient's kidneys discharge their function; and never to perform one, except under something like compulsion, on a patient whose urine is constantly albuminous. I do not say that you should never operate on such a patient, for the exigencies of the local disease may justify you, as they may justify you in operating in advanced phthisis: but be clear that you operate against heavy odds; for even if the patient do not die with erysipelas or pyæmia, or some other form of diseased blood, he will be apt to linger on with a wound half-healed, till at last he dies of his renal disease, just as if you had done nothing.

"The suppurative disease of the kidney which is of most importance in operation is that which many call pyelitis—a suppurative inflammation of the tubular structure of the kidneys, and of the lining of all its larger excretory ducts. Its chief interest is in its relation to lithotomy and lithotrity, and the various operations for urethral stricture. In all of these it is a complication of the gravest kind; and in all of them you must inquire carefully, not only into the mere existence of pus in the urine, but as to its quantity and probable source. If you can convince yourselves that it comes from one or both kidneys, you must regard the case, whatever be its nature, as one of more than ordinary gravity. Pus from the bladder is a comparatively unimportant thing; it means only a local mischief which local treatment may, perhaps, cure: but pus from the kidneys may, and commonly does, mean that these, which, in reference to recovery from operations, are, I believe, the most important excretory organs of the economy, are inadequate for their work. If pus is coming from them, they will certainly not be excreting their due quantity of the proper constituents of the urine; and, at any disturbance, the patient will be apt to become the subject of the so-called urinary fever, in which the phenomena of ordinary traumatic fever are seriously complicated by retention of the materials of the urine in the blood. Now, in reference to lithotomy and lithotrity, the evidences of disorganization in suppurating kidneys may be such as to induce you to advise the patient rather to submit to his disease than to risk an almost inevitably fatal operation. In these, even more than in other cases, be very watchful against letting your own interest or love of operating sway you, contrary to the interest of your patient. But supposing the case to be less grave than this, and that the removal of the stone is advisable even in the face of a large risk, you must choose between lithotomy and lithotrity. The choice is a very difficult one, and scarcely admitting of general rules. If the stone be such a one as can be got rid of with two or three crushings, I would prefer lithotrity. If it would require twice as many or more crushings, I believe lithotomy would be better. If the bladder be sound, or nearly sound, so much the better for lithotrity: if it be unsound, like the kidneys, lithotomy will be the safer operation, and may even be indirectly beneficial by providing, for the time, a ready discharge of the pus through the lower part of the bladder.

"For the various operations for stricture, in cases complicated with

this condition of the kidneys, there is one very plain and obvious rule; being unfit for cutting, these patients should be treated with the gentlest possible means of other kinds. And, by the way, let me advise you, in every such case, to satisfy yourselves, before proceeding to mechanical treatment, that medicinal treatment is really insufficient. Every year teaches me more and more plainly that a very large number of cases of stricture of the urethra are really not dependent on any fixed condition of the urethra, but upon mere swelling of its mucous membrane—upon just such swelling as, with chronic catarrh, narrows or shuts up one or both nostrils. Manual surgery should find nothing to do in such cases as these.

"It may seem to some of you absurd to include catheterism among the surgical operations in which the general condition of the patient's health can have any material influence. None of the minor operations of surgery is so apt to be followed by serious mischief. Very many patients with stricture of the urethra are unsound, or if not unsound, yet with uncertain and capricious health—dyspeptic, or gouty, or with kidneys which, if not diseased, have been very often disturbed in their action, and are, therefore, unsuited for any constitutional disturbance. You should, accordingly, at the least, be very cautious in the use of catheters upon persons of whose general health you know nothing, and upon those who are unaccustomed to their use, and upon those who come to you with strictures which are only somewhat worse than usual by reason of some passing disturbance of their health. And the rules of caution may be twofold stronger when you have to deal with old persons; for I am convinced that a first catheterism has been the first step towards death in many old men. You must therefore be on your watch for the general signs of health in patients on whom you must pass catheters, just as in those on whom you perform any cutting operation. Look upon first catheterism as involving a risk of troubles about as great as that of amputation of a finger or a toe, or the removal of a small tumour, in a person of the same age.

"By the way, let me tell you of a symptom which must make you especially cautious if you have to catheterize elderly or old men. If they are passing large quantities of pale urine of very low specific gravity, whether containing a trace of albumen or not, they will be in danger from even the most gentle catheterism. For this condition of the urine is, I believe, due to some advanced defect of action in the kidneys, and catheterism will be followed by inflammation of the bladder, and the so-called urinary fever, and death will hardly be escaped.

"The healthiest nervous system, in so far as it may be judged of by the mind, is that in which a patient faces an operation quietly, and with a courage which is not too demonstrative. Cases are told, and some of them, probably, are true, and I have seen confirmations of them, which would make it very probable that an abiding gloom, or fear of death, or a foretelling of death, or an utter indifference to the result of the operation, are very bad states. But, after all, your estimate of the risks on any such grounds as these must be a vague one. A better sign is the capacity for sleep. If a patient can always sleep long at a spin, that is a good patient.

"You may have to operate upon insane persons, and in them you will be able to confirm the rule that is established by the observation of all who attend them, that they bear pain and severe local injuries with less distress or ill consequences than the sane do; but that they recover with great difficulty from chronic ailments. Moreover, if you operate upon them you must take all the risks of their interrupting their own recovery by some insane whim or violence.

"Delirium tremens is an indication of a complexity of risks.

"To conclude these questions of the influence of diseases of organs and systems on the results of operations, let me say somewhat of certain conditions of the blood to which I have not yet referred: chiefly of anæmia. It is not a bad condition in which to operate, unless it be that, if anæmic patients fall into the risks of erysipelas or the like casualties, they are less likely to get out of them. Except for these risks, anæmic patients—who are best represented, perhaps, by those who have had large losses of blood from the uterus, or in frequent secondary hæmorrhage from wounded arteries—pass well through these dangers. Their wounds heal slowly, but soundly; and they recover their health at least as well as any anæmic patients do. I say expressly 'secondary hæmorrhage from wounded arteries.' If you are dealing with a patient anæmic through secondary hæmorrhage late after an amputation, you must not forget that the secondary hæmorrhage itself implies some defect of the healing process, which may be due to some general unsoundness.

"It is a general rule, and I dare say a prudent one, not to operate during menstruation. The best time for menstruating persons is believed to be within a few days after a menstrual period.

"As with menstruation, so, much more, during pregnancy, you would not willingly operate. And yet, with the exception of the danger of producing abortion, I know no facts that would imply a greater than than the average risk; and if we may suppose a similarity between patients pregnant and those recently parturient, we may believe them comparatively safe. The repair of a rent perineum is as good an example of the healing of a bruised and lacerated wound as you could well find. And, altogether, the recovery of the enormous majority of parturient women from a condition which, in many respects, is so like that which follows surgical operations, may prove them very safe subjects.

"When women are suckling, they will bear operations with no more than the common risk that might attach to persons who may be in comparatively feeble health. The mere presence of lactation seems to have no bearing on the matter. But an exception must be made, I believe, for operations on the breast. I never did one, and, if I can help it, never will; and to this conclusion I should have come even if I had not read of a case of fatal hæmorrhage from a breast cut widely into during active lactation.

"From what I have said in these lectures you may see that there can be no one sufficient method of preparatory treatment; no single rule of purging or cramming, of starving or intemperance. The only single rule is, to put each patient into the best possible health for bearing injuries; and this, as I have said, is not always the best health for hard work or pleasure. If I may venture on a large general statement upon

such a point, I will say that each man's capacity for bearing a surgical operation may be best measured by the power of his excretory organs in circumstances in which the operation will place him. But the means of regulating this power, or of increasing it, must be various as are the patients themselves. You must study the whole matter very carefully; and I hope I shall not have wasted either your time or my own if I shall have enabled you to start from the point which, after many years' work, I have reached."

Art. 134.—*On the Prophylactic Treatment of Erysipelas and Purulent Infection in Surgical Wards.*

By M. Gosselin.

(*L'Union Medicale*, No. 104, 1867.)

M. Gosselin, in a paper read before the International Medical Congress of Paris, stated that in the years 1865, 1866, and 1867, the cases of erysipelas in the surgical wards of la Pitié were much less frequent than in the three preceding years; the reduction amounted to one-half, and the malady has far more rarely taken on an epidemic character. These good results are due, M. Gosselin believes, to the precautions taken to ventilate the wards, to isolate erysipelatous patients, and to follow out, especially with females, plans of treatment which experience has demonstrated to be less apt to create the development of erysipelas, as, for instance, to use caustics in preference to the bistoury for the removal of lupus and the extirpation of mammary cancer, &c.

M. Gosselin, convinced that the prevention of purulent infection depends more upon care directed to the patients than upon execution and choice of surgical operations, has endeavoured, since the year 1862, to subject his cases of amputation to a number of minute precautions, some taken before and others after the operation.

1. Aëration as perfect as possible of the wards.

2. Minute attention to the preparation of the patient's *moral*, when the nature of the lesion does not demand immediate amputation.

3. Suppression of pain by anæsthetic agents.

4. Careful tying of all arteries that bleed.

5. Great care not to produce pain during the after-dressings; the use of plaster, sutures, and bandages is dispensed with; the stump is placed upon a roll of linen forming a thin cushion, which is covered by a layer of oilskin, in order to prevent contamination of the bed; a compress, dipped in cold or lukewarm water, according to the season, or in diluted alcohol, is placed over the front of the stump and the wound, and disposed in such a manner that it may be removed and afterwards replaced without disturbing the parts.

6. The use of a mechanical bed, by which the patient can be lifted without suffering when the bowels are relieved, and during a change of the bed clothes.

7. Sufficient nourishment and diet adapted as much as possible to the taste of the patient; wine and spirits in moderate quantities may be ordered.

Owing to these hygienic precautions, results have already been obtained by M. Gosselin, which, though not perfectly satisfactory, are at least superior to those which were obtained before the year 1862.

Art. 135.—*On the Treatment of Incised Wounds, with a view to Union by the First Intention.*

By James Syme, F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh, and Surgeon to the Queen in Scotland.

(*The Lancet*, July 6, 1867.)

Professor Lister has found that wounds of the most formidable character may be divested of all their alarming features by means of carbolic acid, applied so as to prevent the impure air from entering.

This remarkable fact has led Professor Syme to consider the expediency of resorting more frequently than heretofore to the use of "torsion" for the suppression of hæmorrhage. Ever since this method was proposed by the late M. Amussat, he has employed it in wounds of the cheek and lips, and also occasionally in more serious operations, to let his pupils see that it was quite effectual, but had been prevented from adopting it for general use, by fearing that the absence of ligatures, which serve as conductors of the discharge, would increase the risk of blood or serum being pent up in the cavity. Feeling now happily relieved from any apprehension of evil being thus produced, Professor Syme thinks "torsion" may in many, if not in all cases, be employed with advantage, instead of the ligature. In order to perform the process effectually, it is necessary that the artery should be seized by catch-forceps, and twisted until they become loose. It has been alleged that such a liberty with the vessel must cause it to slough, and thus disturb the adhesive action. But as this objection is altogether theoretical and contradicted by experience, it is unworthy of notice.

In illustration of what has been said, the two following cases may be mentioned as sufficient to substantiate the facts—

1st. That torsion effectually restrains the hæmorrhage of ordinary-sized arteries.

2nd. That its action upon them does not prevent union by the first intention.

3rd. That protection from the air prevents decomposition of the blood.

Case 1.—On the 27th of May Professor Syme amputated the middle finger of a young woman in the hospital at the metacarpal joint for disease of three years' standing, and arrested the bleeding by torsion of the arteries, which were three in number. A mixture of carbolic acid and linseed oil, in the proportion of one to five, having then been freely applied to the surface of the wound, he tied the adjoining fingers together so as to retain the cut edges in contact, and placed over them a piece of lint soaked in the carbolic mixture. The result at the end of

three days was complete and perfect union without any discharge of matter.

Case 2.—On the 11th of June Mr. Annandale removed a tumour from the chest of a male patient by an incision ten inches in length, and employed the torsion for five arteries, two of which were of considerable size. He then applied the carbolic mixture freely to the wound, brought its edges together by silver sutures, and covered them with lint soaked in the protective fluid. Three days afterwards Professor Syme saw the wound soundly healed without a drop of matter.

The following case is sufficient to prove—if proof were wanting—that ligatures do not prevent primary union beyond the extent which they occupy.

Case 3.—On the 11th of June a young man was admitted into the hospital on account of a large brachial aneurism, the size of an orange, at the bend of his elbow, which had resulted from the thrust of a file two months before the time of application. Professor Syme laid open the sac to its full extent, removed the blood and coagulum, tied the humeral artery on both sides of the orifice, twisted a small vessel that bled, rinsed out the cavity with the carbolic mixture, and applied a piece of lint soaked in it on the wound. There did not follow the slightest local or constitutional disturbance; and complete adhesion took place, except at the small point where the ligatures lay, from which a few drops of pus were discharged. On the fifth day one of the ligatures came out, and on the sixth the other; so that on the seventh day the recovery might be regarded as perfect.

Art. 136.—*On the Treatment of Wounds without Dressings, on Sutures and Acupressure.*

By G. M. Humphry, M.D., F.R.S., Professor of Anatomy in the University of Cambridge.

(*The British Medical Journal*, August 3, 1867.)

In a clinical lecture delivered in Addenbrooke's Hospital, Cambridge, Dr. Humphry remarked that the great requisite—the *sine quâ non*—for the immediate union of wounds is obviously, *adaptation of the cut surfaces*. Unless these are placed in apposition, they cannot easily unite; and, if they are placed in apposition, he apprehends they will, as a rule, unite. Hence the want of union in a wound is commonly proportionate to the want of apposition of the surfaces; and one great object in the treatment must be to secure as exact an apposition of the cut surfaces as possible, and to reduce to the minimum all substances—blood, dressings, ligatures, &c.—that may intervene between them and keep them apart. In the case of small and superficial wounds, there is little difficulty about this. Some simple method answers; and they usually heal at once.

"In the case of larger wounds," Dr. Humphry said, "we usually rely upon the suture; and I know of no better means of effecting the purpose. The twisted suture is probably the best form, because it

exerts an influence over a larger surface than any other suture. If the common suture be used, thread is quite as good, if not a better material, than wire. I have found that, if the parts be at all upon the stretch, the thread holds its ground longer, and causes less irritation and less ulceration of the skin, than the wire. I tested this by inserting thread and wire sutures alternately in the same wound; and the wires, in each instance, cut their way out sooner than the threads. The threads should be so inserted that the edges of the skin are brought into actual contact by them, without any intervening fat or other tissue; and they should not be tied tight—*i.e.*, the portion of skin included in the knot should not be strangulated or even injuriously compressed. With this precaution, they will excite little or no irritation, unless there be tension of the skin, in which case, as I have said, they will cause less irritation than wires.

"When a wound has been carefully closed by sutures, no other application is needed. Plasters, lint, unguents, water-dressings, &c., are not needed, and should, therefore, not be used. They will not maintain any closer apposition even of the deeper parts of the wounds than the sutures have already done. If there be blood or other foreign substances between the cut surfaces, this will not be prevented or even diminished by external appliances. It is very difficult to adjust pressure accurately enough on a large wound to prevent the oozing of blood; and, unless it is well applied, it is a sure cause of pain and inflammation. Slight uniform pressure might be serviceable; the well-doing of superficial wounds, which are simply bound up and sealed by their blood, indicates that it would: but, in larger wounds, I have found that pressure applied in various ways, and as carefully as I could, did, on the whole, more harm than good. I have, therefore, for many years, been in the habit of leaving the wounds after operations, with their edges approximated by sutures, uncovered and dry. The part is thus cool, and free from any external source of irritation. To the advantage of enabling us to see the state of the wound and of the skin around, this plan adds the very great comfort to the patient that there are no applications to be removed, no dressing to be done. That grave addition to the distress following an operation is spared. Warm-water dressing or a poultice, after a few days, may be desirable. We rarely resort to any other means in this hospital, and have had good reason to be satisfied with our non-interference. I am glad to learn that the same plan is being tried in some other hospitals, and with good result.

"'But,' I am sometimes asked, 'is it not better to exclude the air; is not the air a source of irritation; is not the well-doing of subcutaneous wounds due, in great measure, to the exclusion of air?' To this, I reply, that it is certainly well to exclude air from the interior of the wound, where it keeps the surfaces apart and promotes decomposition of the fluids, and, perhaps, of the solids. On the surface of the wound, however—that is, on the skin—it does not act as an irritant; and we should scarcely expect that it would. We have long been in the habit of leaving wounds of the face uncovered, and they usually heal remarkably well. Why should we not follow the same practice in other parts of the body?

"One of the great difficulties in the treatment of wounds is hæmor-

rhage. To arrest the flow from the larger vessels is, of course, imperative; but, unless great care be taken to secure the small vessels, blood will ooze into the wound after the patient is in bed, separating the surfaces, preventing their union, and proving a source of irritation, even if it does not necessitate the reopening of the wound to prevent further loss. I recommend you, therefore, to give much attention to this; to rub the cut surface over rather firmly with the sponge, especially in the holes and corners and between the muscles, so as to cause the vessels which may have temporarily contracted and shut up their mouths to open up and be secured. For this purpose, the LIGATURE—the greatest addition ever made to surgery—is perfectly efficient. Made of good material, and tied tight, it never fails, or very rarely. Secondary hæmorrhage is, therefore, I believe, almost invariably the surgeon's fault. He has either not tied vessels enough, or not tied them tightly enough. You will not be surprised, then, that I have been unwilling to abandon so trusty an aid where the peril is so great, and have been timid in resorting to any other means.

"Still the ligature has its evils. It is a foreign body in the wound; and its tight application causes the strangulation of a given portion of tissue included in and extending beyond its knot. Somewhat magnified these evils may have been; but we cannot altogether shut our eyes to them; and our success in the treatment of wounds is certainly not such as to justify our ignoring what may be improvements in our methods. I have ventured, therefore, as you have seen, to give Professor Simpson's acupressure a trial, employing it after several operations, including removal of the breast and amputation of the forearm and thigh. In most instances, I have given the needle a twist after its insertion, as recommended by Dr. Keith and Professor Pirie of Aberdeen, so as to secure more effectual pressure. You have probably been surprised how easily and quickly the vessels are secured even by one who is not much practised in it; and, attaching much importance, as I do, to *tightness* in the tying of ligatures, I have certainly been surprised at the facility with which hæmorrhage is arrested by the moderate pressure of the needle. As a means of preventing bleeding, it has been quite successful in the cases in which I have used it. There has been no hæmorrhage in either case. As to the effect of this method upon the healing of the wound, I can scarcely judge at present. The case of amputation of the thigh was an instance in which I was peculiarly anxious that union should take place quickly. The patient, a young man, was very weak and low, with hectic, diarrhœa, loss of appetite, and unmistakable evidence of tubercular disease in the lung; in such a state, in short, that I was unwillingly induced to perform the operation only by the severe and highly painful disease of the knee, and the strong wish of the sufferer. I felt that a chance of recovery from the operation would be afforded only by quick healing of the wound; for, if that failed, he would assuredly sink under the suppurative process that must follow. To make matters worse, the vessels bled briskly in the operation, causing a loss of rather more blood than usual in so thin a person. They were, however, quickly stopped by fifteen needles; and the edges of the wound were united by sutures, and no dressings used. The needles were withdrawn at various periods after the operation; some in

forty-eight hours; and one, which secured the femoral artery, not till the fifth day. There was a small amount of suppuration; but the wound healed up at once firmly in nearly the whole of its extent. The youth was much depressed by the operation, but rallied and recovered. This, I feel sure, would not have been so, had there been failure of immediate union in the stump. To what extent this satisfactory result was attributable to the employment of acupressure instead of ligatures, I cannot tell. I have seen, and not unfrequently, union take place as well when ligatures have been used; and a larger experience is required to enable me to form an estimate of the relative advantages of the new and the old methods. I sincerely hope the more extended trial of acupressure may prove that Professor Simpson's skill and energy have not only facilitated the performance of operations, but also brought about a real improvement in the treatment of wounds.

"Even if that be so, I do not think that we should rest quite satisfied. The needles may be better than the ligatures; but it would be better still if we could do without either—if we could devise some effectual means of arresting hæmorrhage without the necessity for leaving any foreign body in the wound. There seems no impossibility in this, and we will therefore hope that it may be accomplished."

ART. 137.—*The Dressing of Surgical Wounds:—Alcohol Dressings of Dr. Batailhé; Carbolic Acid Dressings of M. Maisonneuve; Glycerine Dressings; Elder-flower and Water Dressings: General Hygiene.*

(*British Medical Journal*, October 5, 1867.)

The question of what is the best method of dressing wounds is now one of the most contested in France. It is not long since every one attempted at first to obtain union by first intention, and dressed the line of junction of the wound with fenestrated rag spread with cerate, and covered with a compress of carded lint (charpie). There remained the power of substituting an irritant pommade, if the wound offered any indications for it. This mode of proceeding is still adopted by many distinguished French surgeons, such as Messrs. Richet, Verneuil, Broca, &c. In 1852, Dr. Batailhé published a careful pamphlet in which he praised highly the excellent results obtained by the application of alcohol to the surface of wounds. He followed in this the practice of the most ancient surgeons since Hippocrates, Guy de Chauliac, Paracelsus, Ambrose Paré, the surgeons of the seventeenth and eighteenth centuries, and many others whom I could quote, recommended especially wine, brandy, and aromatic and astringent tinctures. Shortly after the publication of this monograph of Dr. Batailhé, Professor Nélaton tried the alcoholic dressings at the Hôpital des Cliniques; and the result obtained, which seemed to be very favourable, has been detailed in an inaugural thesis published by one of his house surgeons, Dr. Gauligac. This practice became then widely extended, and was followed by a great many practitioners.

Soon afterwards, led by theoretical ideas that the accidents which complicate wounds are most frequently due to the absorption which takes place on their surface of molecules of matter already dead, of septic matters in various stages of decomposition, other substances were tried as dressings, which have the character of being especially antiseptic. Thus, M. Maissonneuve, surgeon of the Hôtel Dieu, has for some time employed almost exclusively a solution of carbolic acid, of which the following is the formula: Crystallized carbolic acid, 1 part; distilled water, 100 parts. M. Maisonneuve contents himself with dipping into this liquid a quantity of charpie, which he then applies directly on the diseased surface, covering the whole with several compresses and an appropriate bandage. Under some circumstances, when the wound appears to be in a condition of atony, M. Maisonneuve employs aromatic wine, or a tincture of arnica more or less diluted with water. We can affirm that most of those who, like ourselves, have followed the practice of this eminent surgeon, have been struck by the numerous cures obtained by this method. Glycerine, of which the antiseptic properties are well known, is preferred by Dr. Demarquay. This distinguished surgeon published, some years ago, a very complete paper on the use of glycerine. It presents, amongst other advantages, that of forming, in combination with starch, glyceroles with which a great number of medicinal substances can be incorporated. Ointments can thus be dispensed with; and we can avoid the employment of fatty substances, which make it so difficult to keep a wound in a proper state of cleanliness. In another school, the dressing of wounds is reduced to the utmost possible simplicity. They are merely covered with a compress steeped in cold water. Dr. Cusco, surgeon to the Lariborisière Hospital, uses an infusion of elder flowers, instead of pure water. It is difficult to give judgment as to which is the best of these methods. M. Maisonneuve's plan, and pre-eminently the alcoholic dressings, are those which are most in favour. In addition, all surgeons are agreed in acknowledging the salutary influence exercised on wounds by the most perfect possible ventilation of the wards, the mental condition of the patient, the suppression of pain by anæsthetics, the careful ligature of arteries, great care not to excite pain while dressing wounds, and good alimentation.

ART. 138.—*The Means of Obtaining the Immediate Organization of Wounds, and, consequently, of Preventing most Traumatic Accidents.*

By M. ABEILLE.

(*Medical Times and Gazette*, Oct. 12, 1867.)

M. Abeille terminates a long memoir on the immediate organization of wounds, which he read at the Academy of Medicine, with the following conclusions:—1. The union of wounds by the first intention fails in the immense majority of cases, such failure exposing the patients, especially in hospitals, to general accidents too frequently fatal; hence

the nearly general abandonment of this method in the hospitals of Paris. 2. It has been demonstrated that subcutaneous wounds undergo immediate organization without passing through the phases of suppuration. This is due to their preservation from permanent contact with the air. 3. The method which I recommend places wounds in an analogous condition to those which undergo immediate organization in the subcutaneous method. It moderates hyperæmia and opposes inflammation, imparting a certain laxity or softness to the tissues, which, in consequence, have not to undergo traction. It removes the sanies and serosities which exude from all wounds, however well united these may be—liquids which are in themselves injurious to the wounds, and become still more so when altered by contact with the air, especially vitiated air. 4. This method consists in (1) uniting as closely as possible the lips of the wound, so as to bring similar tissues into contact, after cleansing away all blood, discharges, or other foreign matters; (2) renewing the dressings as seldom as possible, as every three or four days, a single dressing sufficing in many cases; (3) keeping up a continuous or intermittent imbibition of cold water, according to the patient's sensations, always taking care that the apparatus remains moistened. There is nothing new in any of these separate directions, their combination alone professing to be original. 5. All wounds tend naturally to the regeneration of the tissues concerned, and the wounds should be placed as much as possible in conditions resembling those favourable to normal reparation. All things being equal, this method will be found the most efficacious in hospitals and ambulances, and may be the means of preventing the accidents arising from the agglomeration of patients. 6. The great and fertile idea of a primary union of wounds was only the first step towards immediate organization. Infrequent dressings and imbibitions of cold water constitute the necessary complement. 7. Infrequent dressings have hitherto only been employed for open wounds, but in this method they constitute an excellent means of obtaining immediate organization. 8. Imbibition of cold water has been used only as a refrigerant to subdue inflammation, but it exerts a far more important agency in immediate organization.

Art. 139.—*On the Application of Perchloride of Iron to Wounds made in Surgical Operations.*

By Professor Bourgade.

(*L'Union Médicale*, No. 104, 1867.)

In an interesting paper read before the International Medical Congress, held at Paris in the month of August, Professor Bourgade stated that he had for nearly five years employed perchloride of iron in the dressing of wounds made by the knife in surgical operations. This agent was employed with the object of *rendering wounds made by a cutting instrument as painless as those produced by the employment of caustics.* As soon as the surgeon has completed his operation, applied ligatures, cleaned the wound, and completely arrested the flow of blood,

he covers the whole of the cut surfaces with charpie saturated with a solution of perchloride of iron, taking care to subject all the divided tissues, bone, vessels, nerves, muscles, &c., to the action of this liquid. The perchloride of iron combines closely with the tissues, and forms a thick, firm, and adherent covering, which acts as a kind of protective cuirass to the divided parts and defends them for six or eight days, or even longer, from the action of all external agents. About the end of the first week the charpie becomes detached piece by piece, and a dark-coloured surface is exposed, which consists of a thin layer of perchloride of iron combined with the tissues. This layer is a slight eschar, for on its deep surface may be found histological elements of mortified tissues and an albumino-fibrous coagulum. This also is soon gradually and partially detached, and leaves exposed a red wound which has a very healthy appearance and is already covered by granulations undergoing organization.

M. Bourgade employs aromatic spirit in the subsequent dressings. The wound does not secrete pus profusely, but progresses regularly towards a cure. Sometimes, after the separation of the eschar, the parts may be brought together and made to unite by second intention.

The general condition of the patients treated by these dressings is remarkably satisfactory. There is little pain and fever; the appetite and sleep are preserved in a marked degree.

The application of perchloride of iron to a bleeding surface is followed by acute pain, which arouses the patient if still under the influence of chloroform, but is soon lessened, and after a short time becomes more tolerable; it is not prolonged beyond a few hours. During M. Bourgade's five years' experience of the perchloride of iron, he has employed it in all cases of operation which seemed to him serious enough to cause doubt of severe consecutive affections. He has tried this local agent after operations upon 95 patients, and has not yet met with a single failure, although the statistical table presented to the Congress included cases of amputation of limbs, removals of the breast, excisions of large tumours, &c. In one case a woman was attacked with erysipelas of the arm after excision of the breast and dissection of the glandular enlargements in the axilla, but this patient, whose arm was very œdematous, had previously suffered from two similar atacks; she eventually made a good recovery. Professor Bourgade thinks that the following consecutive affections may be prevented by this method of treating surgical wounds: purulent infection, putrid infection, phlebitis, angioleucitis, osteomyelitis, and secondary hæmorrhage. The reason of the remarkable prophylactic property possessed by perchloride of iron seems to be owing to the production of a general closing of the vessels, a consecutive adhesive phlebitis and complete occlusion of the wound, and probably to a destruction of the germs of fermentation. He does not pretend that perchloride of iron will prevent every consecutive affection, but he believes that by combining this *modus faciendi* with all the means already furnished by the most exact hygiene, the greatest possible amount of probabilities and favourable chances for conducting the patient to cure are united together.

Art. 140.—*Sulphurous Acid as applied to Wounds and Sores.*

By James Dewar, M.D.

(*Medical Times and Gazette*, Sept. 21, 1867.)

The following case, as showing that the existence of pus is not only an unnecessary but a preventible accident, has an important bearing upon the subject of surgical fever, and would encourage the hope that even over it we may be able to exercise some control by anticipating the evils associated with its existence. Dr. Dewar has long been impressed with the fact of there being an antagonism between sulphurous acid and pus, but has not till now had an opportunity of fully testing its value. Miss —, a young woman with a tumour in the breast; she had chloroform, and the tumour, which was about the size of a half-closed fist, was removed by a wound of about six inches long. There was little bleeding, and there was no occasion for ligature. The raw surface was carefully sponged with sulphurous acid, and the edges adjusted by four silver sutures. A piece of lint soaked in the liquid was laid over the wound, and this covered with gutta-percha, the dressing being changed every six hours. From that time till now the patient has never had the slightest uneasiness in the wound, which she could bear to have handled without apprehension; indeed, she said that if she did not see the wound she would not be aware of its existence. Union was complete within twelve hours. The stitches were removed on the third day, and two days thereafter Dr. Dewar's patient was in the garden. She assured him that there never was a stain upon the dressing.

A young man had his hand severely cut when working at a circular saw. The wound was closed in the usual way, and the acid applied, as in the preceding case. The pain instantly ceased, and the edges have since united without any appearance of pus.

Dr. Dewar mentions that some months ago Professor Syme had a case in which the result was very similar. He told him that the sulphurous acid spray was applied to the raw surface, and that when he went to dress it for the first time he was delighted to find the healing process in an unusual state of forwardness.

Art. 141.—*On the Means of Avoiding the Accidental Complications of Wounds.*

By Professor Labat, of Bordeaux.

(*L'Union Médicale*, 104, 1867.)

Professor Labat, in a paper read before the International Congress of Paris, stated that the surgical affections which frequently follow wounds may be prevented by practising the following recommendations:—

1. Not to attempt perfect reunion unless the wound be a superficial one, the texture of the flaps uniform, and the opposed surfaces can be maintained in contact along their whole extent, and also unless the tissues have not been too severely contused.

2. In operations to place the flaps in such a manner that subjacent fluids may be discharged with facility; to apply the flaps loosely to one another.

3. To avoid with great care all the conditions that may lead to alterations of inflammatory products, and the accumulation of these altered products near the openings of veins.

4. To bring about the discharge of fluids by means of a drainage tube or any other plan that supplies a canal leading from the spot of effusion to the outer surface of the body.

5. Never to neglect making early a counter opening, if this plan is necessary for facilitating discharge.

6. To avoid the use of irritating means of reunion, especially in regions richly supplied with lymphatics.

7. In uneven or contused ununited wounds, to avoid the collection of fluids at the bottom of the cavities of the wound by filling these with charpie.

8. To leave the wound as much as possible at perfect rest, and to avoid repeated and harassing dressings.

9. To abstain from the application of pure water to an exposed wound. Alcohol, on the other hand, by preventing the alteration of organic matter, may often render good service.

10. Whenever purulent absorption is threatened, to give ergotine in doses of two or three grammes, and to continue this so long as the danger continues, generally from ten to twelve days.

Art. 142.—*On the Successful Inoculation of a Simple Cephalic Chancre.*

By M. Rofeta.

(*Gazette Médicale de Lyon*, No. 16, 1867 ; *Gazette Hebdomadaire*, No. 28, 1867.)

Although simple chancre of the head occurs so rarely that Ricord concluded that this part of the body was free from the contagion of soft chancre, the facts of M. Diday and the inoculations made by M. Rollet, M. Bugenlot, and M. Bapereau do not allow one to attribute a special immunity to this particular region. The following instance will be a fresh proof for convincing the incredulous :—

"A man who recently came under the notice of M. Rofeta had been for two years affected on the face with one of those serpiginous ulcerations which occur so frequently in the groin, and whilst cicatrizing at one point, spread at another. In order to convince himself that this was a simple chancre, M. Rofeta had the courage to inoculate himself with the pus in the left shoulder. At the end of five days the punc-

ture made by M. Rofeta formed a superficial chancre having all the characters of a soft, non-infecting sore. M. Rofeta again inoculated himself on the left arm with some pus from these ulcers, and an ulcer resulted, which was allowed to take its own course for a month, the original pustules on the shoulder having been cicatrized. These inoculations were made in October, 1866, and up to the commencement of July, 1867, M. Rofeta remained free from every symptom of syphilis.

"This case was one of soft chancre of the head, of a serpiginous form, for which it could not be said that inoculation had facilitated the penetration of the contagious matter. On the other hand, the inoculation practised by M. Rofeta on himself sufficiently proves the non-syphilitic nature of the ulceration."

Art. 143.—*The Influence of Inadequate Operations on the Theory of Cancer.*

By Charles H. Moore, F.R.C.S.

(*Medical Times and Gazette*, June 29, 1867.)

At a meeting of the Royal Medical and Chirurgical Society, held on the 28th May, Mr. Moore read a paper on the above subject. The object of the author was to ascertain the method of the recurrence of cancer after surgical operations for its removal; to discover if the disease broke out afresh with prominent indications of its dependence on a general cause, or in a manner which showed it to be subject to local conditions. Such an inquiry appeared likely to contribute to the distinction between the constitutional and local theories of the disease, and between different theories which might be severally described as local. It might also tend to establish the proper method of conducting operations in cancer. Choosing, as most under general observation, the instance of the mamma, he described various defective methods of operating. In former times the breast was taken off with all the skin covering it. But now, in some cases, the skin being simply incised, the tumour only was taken out; or the skin being raised, and the mamma removed, the flap with the nipple was laid down again; or various proportions of the breast were removed with the cancerous tumour. Sometimes the whole breast was taken out, but an adjoining diseased tissue was left. These various modern methods of operating the author deemed inadequate, inasmuch as the entire disease appeared not to be removed. He gave cases, with diagrams, which illustrated the consequences of the faulty operations, and which demonstrated a connexion between the original and the recurrent disease, as well as the precise order of its dissemination. Taken together with the fact that after other and more complete operations cancer sometimes never returned in its first site, the cases appeared to the author to show:—That the recurrence of cancer is due to local conditions; that these conditions are not organic, so as to be transferable to the second breast after the removal of that first affected; that neither are they regional, so as to belong to structures out of continuity with the first tumour;

that centrifugal dispersion, not organic origin, determines the recurrence of cancer; that recurrent cancer does not indiscriminately involve a residue of the mamma operated on, but commences near the scar; that, when free in both directions, it tends towards the axilla earlier than to the residue of the breast; that cancer of the breast requires the careful extirpation of the entire organ; that the situation in which this operation is most likely to be incomplete is at the edge of the mamma next the sternum; that, besides the breast, unsound adjoining textures, especially skin, should be removed in the same mass with the principal disease.

The President (Mr. Solly) remarked that it was preferable not to approximate the skin too closely after operating for cancer, not only on account of the pain when a large tumour had been removed, but also because, by leaving the wound open, there was greater probability of the disease not returning in the same spot.

Mr. Birkett said it was a favourite theory of Mr. Moore's that the disease extended from the primary point affected. His experience was not so, even in the case of the mammary gland. He had removed a breast a year or two ago. The patient died from a return of the disease in the calvarium. In a child the fibula was cancerous, and the limb was amputated above the knee; yet the child died of cancerous disease in the opposite sphenoid bone. There was no trace of cancer in the glands, and no continuous line could be made out. He would also ask an explanation of the position taken up by Messrs. Moore and De Morgan as to the way chloride of zinc would destroy any seeds of disease left behind in fat subjects, its application lasting only an instant. He thought there could not be much reliance placed on it, except with regard to the cells which had escaped from the mass. He also thought that the possibility of these cells existing after their escape was very problematical. The paper contained many practical points of value, such as free and complete excision with the removal of much skin, but the importance of an early operation had been overlooked. Most cases were neglected or tampered with, and only came to hospital at the last moment. Had they come earlier, many might have been greatly relieved. There are cases in which no operation should be performed, but when cases are in their earliest stage, and where the mass can be well removed, this removal is likely to be highly beneficial.

Mr. Hulke remarked that it did not matter whether it was cancer juice or cells that were left behind, for it was quite certain by Langenbeck's experiments that animals can be inoculated by these.

Mr. Alexander Bruce had repeatedly tried inoculations, and had always failed.

Mr. Savory said this question was doubtful, and required confirmation. As to the question whether cancer was developed in all organs from the primary centre, he would say that cancer was capable of sending out something capable of inoculating the surrounding tissues, as the glands. If cancer grows in other places after the primary mass has been completely removed, does it take its origin directly from this, or may not the system have been infected before removal? The question should not be discussed with regard to the breast only, but also as connected with the extremities. After many operations a considerable

time elapsed before any return, and it was not likely that germs would exist two, three, or four years inactive, yet capable of action. Would it not be better at once to call the disease constitutional, as we are fully justified in doing?

Mr. H. Lee said that most striking results followed the injection of cancerous matter into the veins. Practically, he suggested that it was best to leave the wound open, that cells might be thrown off. This would also relieve considerable distress. One case of his had healed without a drop of pus.

Dr. Wynn Williams had demonstrated the inutility of operation at all. He now treated his cases medically, and the patients lived longer. Mr. Paget, he said, took this view. He did not speak of individual cases; he spoke generally. The knife had been a bane, as one could revert to it too easily, where other remedies might have been found sufficient. He thought the disease allied to scrofula, and as iodine did good in the latter, so bromine was useful for checking cancer. One case was too far gone for operation, yet bromine kept it in check, and the patient improved; there was now little or no pain. He used it most frequently in uterine cancer.

Mr. J. Hutchinson had read a paper on the subject some years ago, and, on the whole, agreed with Mr. Moore, although there were exceptional cases, like those of Mr. Birkett, which should not be permitted to lead men astray. Mr. Birkett's cases were in young people, and cancer was in certain cases hereditary; but this fact did not militate against its local origin. He was glad to hear Mr. Birkett's notions as to the importance of early operation, but our notions should not be limited to cancer of the breast. Epithelioma was, in many respects, a better example, as being frequently the result of local irritation. In reality the triumphs of the knife were more numerous than was supposed, and in all cases he would give the patient the benefit of a doubt, and remove the tumour, as well as every lymphatic enlarged in the slightest degree.

Mr. Moore was gratified at the reception his paper had received. He also was for early operation, although the subject was not mentioned in the abstract of the paper read. He was in great perplexity on many points, but definite conclusions could only be attained by studying each detail separately. He could not answer all the questions put, but would reply to some of them. As to continuity, he had been able to trace it from the breast to the liver. Chloride of zinc he thought useful in destroying escaped parts, as a small slough was formed. He thought it advisable to leave the wound open. He also had seen many cases of cancer being transported from one part to another, as from the optic nerve to the *cauda equina*. Paget's earlier statistics were not favourable to operation; his latter were so, as were also Mr. Sibley's.

Art. 144.—*Relations of Cancer and Phthisis.*

(*Medical Times and Gazette*, May 18, 1867.)

At a meeting of the Medical Society of London, held on April 15, a paper by Mr. Weeden Cooke was read on the above subject. Mr. Cooke considered that there were good reasons for believing that the two apparently distinct diseases, cancer and phthisis, have such alliances as would intimate that they are indeed interchangeable quantities; that whilst both are traceable only to a certain extent to hereditary predisposition, the flaws and gaps in the family history of each may be filled up by the recognition of facts bearing upon the association of these diseases, which have been verified in the antecedents of a very large number of cases of cancer. The occurrence of cancer and tubercle in the same patient may be an accident, which perhaps need attract little attention, since tuberculous disease is acknowledged to affect more than a tithe of the population of these islands; but if it be found that the offspring of a tuberculous parent become some cancerous and some tuberculous, and the offspring of a cancerous parent be affected in some instances by cancer and in others by phthisis, and that not in a few exceptional cases, but in a very large proportion, the seeker after truth will be compelled to admit these phenomena as factors in the great inquest as to the nature and origin and necessary resultant management of cancer. Mr. W. Cooke then referred to the pathology both of cancer and phthisis, and quoted from the writings of Virchow, Wedl, Velpeau, Paget, and others, evidence and opinions which support the doctrine of the constitutional origin of cancer and of its intimate alliance with turberculosis. It is only since the beginning of 1864 that Mr. Cooke has been especially struck with the apparent alliance of these diseases, and in his work on cancer published in November, 1865, he was enabled to show that, out of seventy-nine cases of scirrhus of the breast, thirty-one could trace a positive hereditary tendency to phthisis; whilst many cases of well-known family history in persons of importance showed that the children of cancerous parents will often die of phthisis. Since then Mr. Cooke has collected from his private and hospital patients, and in his paper related briefly the particulars of thirty-six cases of scirrhus of the breast in whose family history a tendency to phthisis was manifested. In this inquiry Mr. Cooke purposely omitted all reference to those whose relations had previously been affected by cancer only. He had also rigidly excluded all cases in which there could be a possible doubt as to the nature of the tumour or disease from which the patient was suffering. He did not think that the recognition of the hereditary nature of cancer, whether as derived from a tuberculous or a cancerous source, pointed to the abandonment of excision or any other local treatment in suitable cases, but to the urgent necessity for constitutional remedies in all cases, whether submitted to operation or otherwise. The tonic and supporting system is that which Mr. Cooke approves. Iron, bark, hydrochloric acid, and their various combinations have been found more useful than arsenic, hemlock, and the fancied specifics of former days; but above and beyond all, or rather in addi-

tion to the tonics first named, Mr. Cooke has the greatest dependence upon the restorative power obtained from cod-liver oil. He believes that this remedy is quite as efficacious in cancer as it has been proved to be in phthisis. He concluded his paper with the relation of the particulars of several cases of scirrhus and epithelioma, all of the patients being now alive, and all taking cod-liver oil with the apparent effect of arresting the disease and improving the general health of the patients, although some of them had suffered from the disease for as many as sixteen years, and others had been operated on, and the disease had rapidly returned.

Art. 145.—*Case of Tetanus.*

Under the care of Dr. Barker of St. Thomas's Hospital.

(*Medical Times and Gazette*, July 6, 1867.)

In the Medical wards of St. Thomas's Hospital, under the care of Dr. Barker, there has lately been a case of peculiar interest. It was a successful case of tetanus, which followed upon a blow on the spine. We are indebted to the kindness of Mr. Hague, the Medical Registrar, for the following report:—

W. S., aged twenty-eight, a labourer, was admitted February 13, under the care of Dr. Barker, with symptoms of tetanus. He was a strong healthy-looking man. He had received a blow from a falling plank between the shoulders about three weeks before, but did not then take much notice of it, and when seen no local evidence of injury was visible. Three days ago he was seized with "cramps" in the chest and abdomen, and soon after pains in the whole body. He found a good deal of difficulty in swallowing. On admission he had marked opisthotonos and well-marked *risus sardonicus*, and these occurred readily upon exciting him by talking, or by moving or examining him. The teeth were firmly clenched and his breathing was impeded. The temperature in patients suffering from tetanus has been stated to be extremely high, but neither in this nor in any of the instances which have occurred at this hospital has it arisen to any inordinate degree. Here it was found to be at first 100°·2 in the axilla, and never rose above 101°·2, which was on the eighth day, when his symptoms had considerably abated. After that date it fell rapidly, and remained for some time rather below the healthy standard. As he progressed the spasms became less frequent, but at the same time apparently more painful, and sleep was more easily obtained. The bowels were, as usual, very obstinate, but acted after frequent doses of croton oil and the use of enemata. The skin acted very freely the whole time, and he was constantly bathed in a profuse, rather sour sweat. When able to walk he complained of great weakness in his lower extremities and pain on using them, but no permanent paralysis followed—a point which was watched with some curiosity on account of its bearing upon the pathology of tetanus, which Mr. Lockhart Clarke has so carefully investigated.

The treatment adopted by Dr. Barker was the frequent use of pur-

gatives when the bowels were inactive, and the exhibition of the tincture of cannabis indica in drachm doses every hour. The latter does not seem to have had much effect upon the disease.

Art. 146.—*Ammonia in Traumatic Tetanus.*

(*The Lancet*, July 6, 1867.)

The *Bulletin de Thérapeutique* puts some reliance on a case of recovery by ammonia in the practice of Dr. Charbonnier, who had treated seven other cases by various means without success. In the case which recovered, six drops of liquor ammoniæ were given every half-hour, and the patient was well on the fifth day. A single case, however, is not sufficient to establish the practice.

Art. 147.—*On the Antiseptic Principle in the Practice of Surgery.**

By Joseph Lister, F.R.S., Professor of Surgery in the University of Glasgow.

(*British Medical Journal*, Sept. 21, 1867.)

To prevent the occurrence of suppuration with all its attendant risks, Mr. Lister employs carbolic or phenic acid, a volatile organic compound, which, he says, appears to exercise a peculiarly destructive influence upon low forms of life, and hence is the most powerful antiseptic with which we are at present acquainted.

The first class of cases to which he applied it was that of compound fractures, in which the effects of decomposition in the injured part were especially striking and pernicious. The results have been such as to establish conclusively the great principle that *all the local inflammatory mischief and general febrile disturbance which follow severe injuries are due to the irritating and poisoning influence of decomposing blood or sloughs.* For these evils are entirely avoided by the antiseptic treatment, so that limbs which otherwise would be unhesitatingly condemned to amputation may be retained with confidence of the best results.

In conducting the treatment, the first object must be the destruction of any septic germs which may have been introduced into the wound, either at the moment of the accident or during the time which has since elapsed. This is done by introducing the acid of full strength into all accessible recesses of the wound by means of a piece of rag held in dressing forceps and dipped in the liquid.†

The next object to be kept in view is to guard effectually against the

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* Read in the Surgical Section before the annual meeting of the British Medical Association in Dublin, on August 9, 1867.

† The addition of a few drops of water to a considerable quantity of the crystallized acid, induces it to assume permanently the liquid form.

spreading of decomposition into the wound along the stream of blood and serum which oozes out during the first few days after the accident, when the acid originally applied has been washed out or dissipated by absorption and evaporation. This part of the treatment has been greatly improved during the last few weeks. The method which Mr. Lister has hitherto published (see the *Lancet* for March 16th, 23rd, 30th, and April 27th of the present year) consisted in the application of a piece of lint dipped in the acid, overlapping the sound skin to some extent and covered with a tin cap, which was daily raised in order to touch the surface of the lint with the antiseptic. This method succeeded well with wounds of moderate size; and in all the many cases of this kind which have been so treated by himself or his house-surgeons not a single failure has occurred. When, however, the wound is very large, the flow of blood and serum is so profuse, especially during the first twenty-four hours, that the antiseptic application cannot prevent the spread of decomposition into the interior unless it overlaps the sound skin for a very considerable distance, and this was inadmissible by the method described above, on account of the extensive sloughing of the surface of the cutis which it would involve. This difficulty has however been overcome by employing a paste composed of common whiting (carbonate of lime), mixed with a solution of one part of carbolic acid in four parts of boiled linseed oil, so as to form a firm putty. This application contains the acid in too dilute a form to excoriate the skin, which it may be made to cover to any extent that may be thought desirable, while its substance serves as the reservoir of the antiseptic material. So long as any discharge continues, the paste should be changed daily, and, in order to prevent the chance of mischief occurring during the process, a piece of rag dipped in the solution of carbolic acid in oil is put on next the skin, and maintained there permanently, care being taken to avoid raising it along with the putty. This rag is always kept in an antiseptic condition from contact with the paste above it, and destroys any germs that may fall upon it during the short time that should alone be allowed to pass in the changing of the dressing. The putty should be in a layer about a quarter of an inch thick, and may be advantageously applied rolled out between two pieces of thin calico, which maintain it in the form of a continuous sheet, which may be wrapped in a moment round the whole circumference of a limb, if this be thought desirable, while the putty is prevented by the calico from sticking to the rag which is next the skin.* When all discharge has ceased, the use of the paste is discontinned, but the original rag is left adhering to the skin till healing by scabbing is supposed to be complete.

The next class of cases to which Mr. Lister has applied the antiseptic treatment is that of abscesses. Here also the results have been extremely satisfactory, and in beautiful harmony with the pathological principles indicated above. The pyogenic membrane, like the granula-

* In order to prevent evaporation of the acid, which passes readily through any organic tissue, such as oiled silk or gutta percha, it is well to cover the paste with a sheet of block tin, or tinfoil strengthened with adhesive plaster. The thin sheet lead used for lining teachests will also answer the purpose, and may be obtained from any wholesale grocer.

tions of a sore, which it resembles in nature, forms pus, not from any inherent disposition to do so, but only because it is subjected to some preternatural stimulation. In an ordinary abscess, whether acute or chronic, before it is opened the stimulus which maintains the suppuration is derived from the presence of the pus pent up within the cavity. When a free opening is made in the ordinary way, this stimulus is got rid of, but the atmosphere gaining access to the contents, the potent stimulus of decomposition comes into operation, and pus is generated in greater abundance than before. But when the evacuation is effected on the antiseptic principle, the pyogenic membrane, freed from the influence of the former stimulus without the substitution of a new one, ceases to suppurate (like the granulations of a sore under metallic dressing), furnishing merely a trifling amount of clear serum, and, whether the opening be dependent or not, rapidly contracts and coalesces. At the same time any constitutional symptoms previously occasioned by the accumulation of the matter are got rid of without the slightest risk of the irritative fever or hectic hitherto so justly dreaded in dealing with large abscesses.

In order that the treatment may be satisfactory, the abscess must be seen before it has opened. Then, except in very rare and peculiar cases* there are no septic organisms in the contents, so that it is needless to introduce carbolic acid into the interior. Indeed, such a procedure would be objectionable, as it would stimulate the pyogenic membrane to unnecessary suppuration. All that is requisite is to guard against the introduction of living atmospheric germs from without, at the same time that free opportunity is afforded for the escape of discharge from within.

The means employed are the following:—A piece of rag dipped in the solution of carbolic acid in oil to serve as an antiseptic curtain, under cover of which the abscess is evacuated by free incision, and the antiseptic paste to guard against decomposition occurring in the stream of pus that flows out beneath it; the dressing being changed daily till the sinus has closed.

Ordinary contused wounds are, of course, amenable to the same treatment as compound fractures, which are a complicated variety of them. Mr. Lister contents himself with mentioning a single instance of this class of cases. In April last, a volunteer was discharging a rifle when it burst, and blew back the thumb with its metacarpal bone, so that it could be bent back as on a hinge at the trapezial joint, which had evidently been opened, while all the soft parts between the metacarpal bones of the thumb and forefinger were torn through. The House-Surgeon, Mr. Hector Cameron, applied carbolic acid to the whole raw surface, and completed the dressing as if for compound fracture. The hand remained free from pain, redness, or swelling, and with the exception of a shallow groove, all the wound consolidated without a drop of

* As an instance of one of these exceptional cases, Mr. Lister mentions that of an abscess in the vicinity of the colon, and afterwards proved by post-mortem examination to have once communicated with it. Here the pus was extremely offensive when evacuated, and exhibited vibrios under the microscope.

matter, so that if it had been a clean cut, it would have been regarded as a good example of primary union. The small granulating surface soon healed, and at present a linear cicatrix alone tells of the injury he has sustained, while his thumb has all its movements and his hand a firm grasp.

If the severest forms of contused and lacerated wounds heal thus kindly under the antiseptic treatment, it is obvious that its application to simple incised wounds must be merely a matter of detail. Mr. Lister has devoted a good deal of attention to this class, but he has not as yet pleased himself altogether with any of the methods he has employed. He is, however, prepared to go so far as to say that a solution of carbolic acid in twenty parts of water, while a mild and cleanly application, may be relied on for destroying any septic germs that may fall upon the wound during the performance of an operation; and also that, for preventing the subsequent introduction of others, the paste above described, applied as for compound fractures, gives excellent results. Thus he has had a case of strangulated inguinal hernia in which it was necessary to take away half a pound of thickened omentum, heal without any deep-seated suppuration or any tenderness of the sac or any fever; and amputations, including one immediately below the knee, have remained absolutely free from constitutional symptoms.

Further, Mr. Lister has found that when this antiseptic treatment is efficiently conducted, ligatures may be safely cut short and left to be disposed of by absorption or otherwise.

As regards the influence of this mode of treatment upon the general healthiness of an hospital, Mr. Lister says, previously to its introduction the two large wards in which most of his cases of accident and of operation are treated were among the unhealthiest in the whole surgical division of the Glasgow Royal Infirmary, in consequence apparently of those wards being unfavourably placed with reference to the supply of fresh air; and he has felt ashamed when recording the results of his practice, to have so often to allude to hospital gangrene or pyæmia. It was interesting, though melancholy, to observe that whenever all or nearly all the beds contained cases with open sores, these grievous complications were pretty sure to show themselves; so that he came to welcome simple fractures, though in themselves of little interest, either for himself or the students, because their presence diminished the proportion of open sores among the patients. But since the antiseptic treatment has been brought into full operation, and wounds and abscesses no longer poison the atmosphere with putrid exhalations, his wards, though in other respects under precisely the same circumstances as before, have completely changed their character; so that during the last nine months not a single instance of pyæmia, hospital gangrene, or erysipelas has occurred in them.

As there appears to be no doubt regarding the cause of this change, the importance of the fact can hardly be exaggerated.

Art. 148.—*Treatment of Anthrax in Subcutaneous Incision.*

By M. Guérin, at St. Louis.

(*British Medical Journal,* Sept. 21, 1867.)

The Paris correspondent of the *British Medical Journal* says he has had several opportunities of seeing, at the Hôpital St. Louis, in the service of M. Guérin, cases of anthrax, more or less grave, treated by his method of subcutaneous incision. This proceeding counts many partisans among us. It consists in plunging in the centre of the anthrax a straight bistoury, which is immediately insinuated on the flat under the skin beyond the limits of the swollen part; and, as soon as the limit is passed, the cutting edge of the instrument is turned towards the deeper parts, to incise them from the circumference to the centre, till the sensation felt indicates that resistance is overcome. This first incision only indicating one radius of the diseased surface, three others are made, which converge towards it to the point at which the bistoury was introduced. When the integuments offer a mortified point, or an orifice, it can be used for introducing the instrument, without its being necessary to divide the skin to however slight an extent. The success of this operation, says Dr. Guérin, seems to solve the question of the seat of anthrax; for, if it be practised at the outset of the malady, it arrests the march of it, and opposes the mortification of the skin. Often the cellular tissue suppurates, and is eliminated under the form of a "core;" while the skin presents no alteration. The subcutaneous incision of anthrax has the special advantage of relieving the patients from the liability to erysipelas and to purulent infection. Besides, this means is not very painful; for it spares the skin, which is of all the tissues that of which the incision produces the most pain. Finally, it does not give rise to a deformed cicatrix—a consideration which is not to be disdained when the anthrax is seated on the face or any other uncovered part of the body. After the incision, emollient poultices are applied; and in all cases the cure occurs more quickly than by any other treatment.

Art. 149.—*An Easy Method of taking Casts.*

By Mr. Lawson Tait.

(*Medical Times and Gazette,* August 17, 1867.)

Nearly two years ago Mr. Tait says he introduced paraffin as a means of treating fractures, and since then he has not been disappointed in its use. The perfect way in which it adapts itself to the body induced him to try it as a matrix for casts. The process is as follows:—Having placed the patient in an easy position, in which he will be steady, the part of which the cast is to be taken is to be oiled, and then coated over with melted paraffin (about 105° Fahr.), applied by means of a broad camel-hair wash brush. Layer after layer of paraffin is to be added, till

sufficient strength is obtained for the matrix; a quarter of an inch is quite sufficient, except for the largest casts, and at points where motion may occur, as in the neck. The process is facilitated by having an assistant quietly blowing with bellows as each coat is applied. After the requisite thickness is obtained, and during the few minutes in which the paraffin remains plastic, a sharp penknife is to be run over the lines requisite for the removal of the matrix. A cold-water cloth is then to be applied over all for five minutes, when the pieces may be removed, and reunited by a hot wire. Plaster is then to be run into the matrix in the usual way, and after it has set the paraffin is to be carefully broken off, and the cast dressed. In this way Mr. Tait has finished a large cast in less than an hour, and has turned out some quite equal to any he has seen done in the old way. The process has the advantage of being a very cheap one, the paraffin being scarcely fivepence a pound, and it does over and over again. The quantity of plaster required is trifling, as he has made the casts of two hands and arms and a head and neck from sixpence-worth of plaster. If duplicates are wanted of the cast, they may be had by so arranging the divisions of the matrix that it may be lifted off the cast, as is done with the plaster matrix; or, what is better, by making another matrix from the cast; or, what would be easier than any, making several matrices from the subject. The colouring of such casts can, of course, be done only by those who have the special skill for it; but even without colour a collection of casts of some of the cases of daily occurrence, would be an important acquisition as a means of study, and also, Mr. Tait thinks, might be made available for the purposes of test examinations.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 150.—*Experimental Contributions to the History of Glaucoma.*

By Dr. WEGNER.

(*Archiv für Ophthalm.*, xi. 2, 1866; *Schmidt's Jahrbücher*, No. 3, 1867.)

In the Zurich Clinique were observed two cases of neuralgia of the fifth nerve, which occurred in women in the twentieth year of age, and were remarkable for the fact that simultaneously with the paroxysms (pains in the supra-orbital nerve and in the eye itself) there was an increase in the amount of intraocular pressure, together with dilatation of the pupils and considerable diminution of visual power. Both eyes were attacked successively, and the appearance of the glaucoma was necessarily considered as a result of irritation of the fifth nerve, since no distinct inflammatory symptoms were presented.

Dr. Wegner was led by these clinical observations to make experimental proofs of this matter. He had a manometer constructed, which was introduced into the anterior chamber of the eye of a small dog.

In his researches he repeated the familiar experiments on the action of the fifth nerve and cervical sympathetic upon the vessels of the iris, and arrived at therefrom the following results :—

1. After division of the cervical sympathetic the vessels of the iris on the same side immediately dilate, and become hyperæmic. After irritation of the upper segment these vessels contract and disappear, and the iris becomes pale and anæmic. When the irritation is discontinued the hyperæmia returns.

2. After division of the fifth nerve a precisely similar hyperæmia occurs in the iris of the same side. Irritation of the cervical sympathetic does not, however, produce now a disappearance of the congestion.

3. When the fifth nerve is divided on one side and the cervical sympathetic on the other, there is hyperæmia on both sides alike.

The following are the results obtained by Dr. Wegner from the introduction of the manometer into the cornea :—

The intraocular pressure varies within wide limits (18-35 millimètres), according to size, age, and other conditions.

In an eye affected with artificial coloboma the pressure is from six to seven millimètres less than it is in the other eye of the animal experimented upon.

The pressure sinks gradually from four to eight millimètres after division of the cervical sympathetic nerve. The same thing takes place also after division of the fifth. It sinks also after injecting atropine under the skin of the ear, and irritating the sympathetic has no influence upon the vessels of the iris after the introduction of the atropine.

If a traumatic iritis be produced in both eyes, the intraocular pressure is materially diminished upon the side on which the cervical sympathetic has been divided.

The conclusion to be drawn from these results, that after irritation of the sympathetic, and also the fifth nerve, the intraocular pressure is necessarily increased, could not be satisfactorily proved by experiment, since the amount of electrical stimulus necessary for the accuracy of the research is difficult to obtain, and the continuance of the irritation produces exhaustion of the nerves.

Art. 151.—*Case of Neglected Glaucoma : Iridectomy.*

Under the care of Mr. Bowman.

(*Medical Times and Gazette*, August 31, 1867.)

The following history is interesting as showing the natural progress of glaucoma and the power of iridectomy to arrest it.

J. H., aged fifty-six, came as a patient to the London Ophthalmic Hospital, November 2, 1866. He was a carpenter by trade, and had lived regularly and enjoyed good health. For twenty-two years he had used convex glasses for reading. A twelvemonth ago he first noticed a rainbow round a candle, and had seen it occasionally ever since, but only with the left

eye. At times he had suffered from pain in the left temple, at a spot about the size of a sixpence. He always found relief by bathing his brow with cold water, but noticed that his sight was misty for some hours after the attack. For a fortnight previous to his application to the hospital these attacks had come on more frequently—about four times a week. At the date of his admission the following was his condition :— The right eye was presbyopic, but otherwise normal. Without the aid of glasses he could only read Jaeger 12. With the left eye he read Jaeger 14, but he said that three nights before he could not see his hand. The tension of this eye was increased to T_1. The pupil was slightly dilated and fixed, and the anterior chamber was very shallow. The superficial veins of the conjunctiva were slightly injected. The field of vision was complete. On examination with the ophthalmoscope the arteries were seen to be small, while the veins were large and tortuous, and there was spontaneous pulsation in the lower one. The optic disc was slightly cupped. The patient was strongly urged to allow an iridectomy to be done on this eye. The certainty of his losing the sight if he did not submit was explained to him, but he resolutely refused to consent until he had tried whether a few weeks' rest and country air would not do him as much good. Nothing more was seen of him till the latter part of February, when he again came to the hospital. He stated that the attacks of pain had increased in frequency and severity since he left London. They came on suddenly, and would last from four to ten hours. Now he was almost blind with the left eye, so that he could only make out objects in front and on the inner side. The surface of the globe was much injected, the tension increased to T_3. The details of the fundus could not be seen with the ophthalmoscope, as the media were so cloudy. He was quite willing to submit now to any operation that would give him relief from the constant attacks of pain, and Mr. Bowman accordingly did an iridectomy outwards. After this the eye became quiet ; the tension was reduced, and there was no more return of the attacks of pain. The vision, as was expected, remained much the same, though there can be little doubt that if the operation had been performed three months earlier, when he was first seen, he would have recovered nearly, if not quite, all of his sight. As glaucoma so frequently affects the second eye at some future time, this man has been told not to delay coming to the hospital if any such symptoms appear in his right eye, and from the experience he has dearly bought it is not likely that he will neglect the advice.

Art. 152.—*Calomel, Topically, in Ophthalmia.*

(*The Lancet*, July 27, 1867.)

M. Giraud Teulon mentions, in the *Annales d'Oculistique*, that applications of calomel are very useful in ophthalmia, especially in the scrofulous variety. Photophobia disappears quickly when the powder is placed between the lids by means of a camel-hair brush. When the case is very bad the forehead should be painted with a tincture of iodine.

This practice may be very effectual, but solutions of nitrate of silver of various strengths will nevertheless hold their ground.

Art. 153.—*On the Treatment of Strabismus.*

By M. Xavier Galezowski.

(*Gazette des Hôpitaux*, No. 90, 1867.)

The following are some practical indications which should, according to M. Galezowski, be followed in the application of tenotomy for squint:—

1. In strabismus of from three to four millimetres, the surgeon may content himself with making a simple section of the tendon of the muscle.

2. In strabismus of from five to six millimetres, it is necessary to open the aponeurosis more fully, and to separate extensively the sub-conjunctival tissue.

3. If the surgeon desires to rectify a strabismus of more than six millimetres, two operations should be performed at different periods upon the same muscle, or what is more effectual, the aponeurosis should be incised extensively above and below the muscle, according to the instructions of M. Richet, by carrying the scissors deeply backwards, or laterally, so as to break up all the adhesions existing between the muscle and the capsule.

4. The correction obtained is of two kinds: *immediate*, which is observed at the time of the operation, and *definite*, which can only be determined after a certain time, and when cicatrization has been perfected.

5. When the immediate effect of the operation is too great it may be diminished; (*a*) by applying a conjunctival suture, involving for this a large portion of the conjunctiva; (*b*) to stay the movements of the eyes after the operation by means of a compress and bandage; (*c*) by forcing the patient to look toward the side of the original deviation.

Art. 154.—*A Modification of the Operation for Strabismus.*

By Dr. Richard Liebreich, Professor of Ophthalmology, Paris.

(*American Journal of the Medical Sciences*, April, 1867.)

Dr. Liebreich, in a memoir on this subject, a copy of which he has politely sent us, states:—"It is well known that, if the internal rectus muscle be divided in the manner now generally practised, it is possible to correct a squint of from 2 to $2\frac{1}{2}$ lines in adults, and from $2\frac{1}{2}$ to 3 lines in children. But, if the deviation exceed this extent, it will be necessary to perform two, three, or even more, successive operations."

To remedy, if possible, these defects, Prof. L. determined to investigate, with greater accuracy, *first*, the anatomical relations of the muscles, with regard to the capsule of Tenon, the sclerotic, conjunctiva, caruncle, &c.; and, *second*, the mechanical effect of the operation for strabismus.

From this investigation he has been led to call special attention to three points, as being particularly important with regard to the performance of the operation for strabismus.

"1. The connexion of the muscle with the capsule of Tenon is twofold. On the one hand, there is the annular connexion of the posterior capsule and its sheath-like processes (which are reflected towards the orbit) with the belly of the muscle; on the other, the firm adhesion of the anterior half of the capsule to the surface of the end of the muscle, which penetrates into the capsule.

"2. The conjunctiva is firmly connected with the outer surface of the capsule of Tenon, from the edge of the cornea to an irregularly circular, sharply-defined marginal line, and, consequently, it stands in a very important relation to the muscles of the eye.

"3. The caruncle, together with the semilunar flap, rest upon a band-like ligament, which passes from the capsule of Tenon toward the edge of the orbit. Now, when the internal rectus is contracted, and the eye rolled inwards, this band is rendered tense: and the caruncle, which is fixed to it, is consequently drawn in towards the internal surface of the orbit. But the outer edge of the caruncle, together with the semilunar fold and an adjoining portion of conjunctiva, are drawn backwards into a furrow. This is partly due to the fact that, during the movements of the eye, the conjunctiva lies, up to a certain point, in close apposition to the eyeball; and partly also to the fact that, when the muscle contracts, and, on account of its connexion with the anterior half of the capsule, draws the latter backwards, it is necessarily followed by the conjunctiva (which is likewise connected with the capsule), by the semilunar fold, and the caruncle.

"From a consideration of the first of these three points, we learn with regard to the mechanical effect of the operation for strabismus, that a division of the insertion of a muscle can only be brought about by a division of the portion of anterior capsule which covers the muscle. For this portion, which passes over the musele to become attached to the sclerotic just before the insertion of the tendon, keeps the muscle in a fixed position with regard to the sclerotic; so that, if we attempt to sever the tendon from the sclerotic without dividing this portion of the capsule, the tendon would become reunited exactly at its original point of insertion; so that, in fact, it would not have receded at all. It would, however, be not only very difficult, but almost impossible, to avoid incising this portion of the capsule, as, on account of its intimate adherence to the insertion of the muscle, it is always divided simultaneously with it. Even in the subconjunctival operation, although the conjunctiva which covers this portion of the capsule is left intact, the capsule itself is divided along the whole breadth of the insertion of the muscle. This vertical incision of the capsule of Tenon, which always takes place simultaneously with the tenotomy, is the cause of the retrocession of the anterior part of the capsule covering the muscle, and

of the annular portion of the capsule which keeps the muscle fixed, and consequently, also, the retrocession of the muscle itself. By increasing the length of the incision in the capsule (Graefe's division of the lateral processes), we may certainly produce a somewhat greater retrocession; but, owing to the second point mentioned above, it cannot be very extensive. For the connexion of the conjunctiva with the capsule does not permit a more considerable retrocession of the latter, unless we make an extensive vertical incision in the conjunctiva, analogous to that in the capsule, and thus jointly divide the conjunctiva, capsule, and tendon. Such a proceeding is, however, accompanied by considerable disadvantages. On account of the connexion between the muscle, capsule, and caruncle, the divided muscle draws the caruncle and the semilunar fold backwards and inwards, as well as that portion of the conjunctiva which was divided by the vertical incision. In consequence of this, these parts assume the same position when the eye looks straight forward, which they do in the normal eye when it is turned very far inwards. At the same time, the distance between the semilunar fold and the inner edge of the cornea is increased, as also the portion of sclerotic visible at the inner angle of the eye; and this gives to the eye that peculiarly disagreeable appearance which was so characteristic of the old operation."

Based upon the above considerations, Prof. L. recommends the following modification of the operation for strabismus:—

"If the internal rectus is to be divided, I raise with a pair of forceps a fold of conjunctiva at the lower edge of the insertion of the muscle; and, incising this with scissors, enter the points of the latter at the opening between the conjunctiva and the capsule of Tenon; then carefully separate these two tissues from each other as far as the semilunar fold, also separating the latter, as well as the caruncle, from the parts lying behind. When the portion of the capsule which is of such importance in the tenotomy has been completely separated from the conjunctiva, I divide the insertion of the tendon from the sclerotic in the usual manner, and extend the vertical cut, which is made simultaneously with the tenotomy, upwards and downwards—the more so if a very considerable effect is desired. The wound in the conjunctiva is then closed with a suture.

"The same mode of operating is pursued in dividing the external rectus; and the separation of the conjunctiva is to be continued as far as that portion of the external angle which is drawn sharply back when the eye is turned outwards."

Prof. L. claims the following advantages for his proceeding:—

"1. It affords the operator a greater scope in apportioning and dividing the effect of the operation between the two eyes.

"2. The sinking back of the caruncle is avoided, as well as every trace of a cicatrix, which not unfrequently occurs in the common tenotomy.

"There is no need for more than two operations on the same individual, and therefore of more than one on the same eye."

Art. 155.—*On the Treatment of Iritis.*

By Albert Mooren, M.D., Chief Surgeon to the City Eye Infirmary of Düsseldorf.

(*Ophthalmic Review*, October, 1867.)

Dr. Mooren makes some important remarks in his *clinical observations in ophthalmic surgery* on the treatment of iritis. In many cases he states that he has succeeded in cutting short the course of the disease by an abortive method of treatment, consisting in the repeated application of a four-grain solution of atropine. Under this treatment, combined with closure and rest of the eye, the vascularity and neuralgic symptoms ceased, and the patient was cured in a few days. If this treatment did no good, or rather exasperated the disease, all local treatment was abandoned, and leeches were applied. It was then not unfrequently observed that the influence of the previously applied atropine showed itself in a dilatation of the pupil. In the event of this not occurring, atropine was again applied, but if it still failed to dilate the pupil, its further use was altogether abstained from. Under these circumstances excellent results were obtained from the systematic employment of moist heat, through the medium of bran poultices. With the exception of mild purgatives, and the occasional use of morphia, no other general remedies were used. Dr. Mooren agrees with the proposition of Mr. Zachariah Laurence, that it is unnecessary in such cases to resort to the constitutional use of mercury. Iritis complicating central infiltrations of the cornea, was always observed to lead to increased prominence of the cornea and tension of the globe, and considerable pain. Iridectomy was the only treatment of any real use in such cases.

Art. 156.—*Iridectomy in Recurrent Iritis.*

By William Bowman, F.R.S.

(*Medical Times and Gazette*, August 31, 1867.)

The following exemplifies the value of iridectomy in recurrent iritis—a disease which not only leaves the eye worse after each attack, but is a constance annoyance to the patient by interfering with his ordinary occupations. As the operation is very seldom followed by any unpleasant symptoms, there is the more reason in urging it on a patient who is suffering from this form of disease. In this particular case a very unusual amount of irritation followed in one eye, while in the other recovery took place in the usual manner.

J. B., aged eighteen, had been in service in the country, from whence she was sent up to the London Ophthalmic Hospital. Her account was, that ten months previously she suffered from inflammation of the left eye, and sometime after the right eye was affected in a similar way. Since then she has had six or seven attacks, each of

which only lasted for a few days. Her general health had been good, and she had the appearance of a healthy country girl.

At the time of her application (Nov. 9, 1866) the eyes were quiet. With the right she could read Jaeger 1, and with the left Jaeger 2. Both pupils were so bound down by synechiæ that atropine had hardly any effect, in consequence of which the fundus could not be seen with the ophthalmoscope. As the constant attacks prevented the girl from continuing her employment, Mr. Bowman determined to remove a piece of each iris at the upper part. This was accordingly done, and the case proceeded well until the third day, when the lids of the right eye became red, and swollen, and painful. On examination there was found to be considerable chemosis of the conjunctiva, the anterior chamber was full of blood, and there was no perception of light. The left eye was going on quite well. In a few days the untoward symptoms in the right eye abated, the blood was gradually absorbed from the anterior chamber, and the sight returned, so that at the end of three weeks she could see as well as on admission, and in a few days returned home. Between five and six months after the operation she came to show herself at the hospital, and could then read Jaeger 1 with both eyes, and stated that she had had no return of the attacks since the operation.

Art. 157.—*On the Relative Value of Atropine and of Mercury in the Treatment of Acute Iritis.*

By T. P. Teale, F.R.C.S.

(*Ophthalmic Review*, October, 1867.)

The author's conclusions are :—

"1. Iritis can generally be cured quickly and perfectly by atropine alone, or by atropine and mercury combined, without the aid of other remedies. How far opium, blisters, leeches, and venesection aid and accelerate progress I have not yet tested, wishing in the first instance to determine the value of the remedies under consideration, and then to make the results herein contained a starting-point for further inquiry.

"2. The presence or absence of syphilis does not affect the question of treatment.

"3. Many, perhaps one-half, of the cases of iritis, *whether syphilitic or not*, can be cured by *atropine alone*.

"4. Those cases in which atropine fails to dilate the pupil in twenty-four or forty-eight hours, require mercury. In occasional cases, the application of leeches renders an eye susceptible of dilatation which at first was unaffected by atropine.

"5. When mercury is required, it ought to be introduced into the system rapidly.

"6. If the system is to be affected by mercury, the mercury ought to be introduced *by the skin* NOT by the *stomach*. When this drug is introduced by the stomach, the digestive powers are depressed at the very

period when their healthy function is most needed. When introduced by the skin its full remedial effects are obtained without any impairment whatever of the powers of nutrition. It is my rule never to introduce mercury by the stomach when I wish to obtain rapidly the constitutional effects of the drug.*

"7. In those cases which require mercury it is sufficient to render the gums slightly tender. When the gums are even slightly affected we have therein evidence of the introduction of mercury into the system in quantity sufficient to turn the scale in favour of health, and carry the case to a successful issue. Therefore, the moment we find the gums undoubtedly tender, or beginning to be tender, we may suspend the drug.

"8. In most cases the constitutional effects of mercury, indicated by tender gums and improvement of symptoms, may be obtained on the second, third, or fourth days, provided the patient is confined to bed. Absorption of mercury by the skin appears to be *much more* rapid when the patient is confined to bed than when he is allowed to go about as usual.

"9. Atropine should be used during the whole period of treatment, except where it causes great pain or increases conjunctival irritation, in which case it may be *temporarily* suspended or dissolved in glycerine, and applied to the skin.

"10. That in cases requiring mercury the coincidence of tenderness of gums, of relief from pain, and of the action of atropine on the pupil is almost absolute, even to an hour or two. Perhaps in cases more severe than those recorded, with great effusion of lymph, the visible effects of atropine may be delayed till a later period. On this point I do not possess evidence."

Art. 158.—*Report of a Case of Syphilitic Iritis.*

By Henry Power, F.R.C.S., M.B. Lond.

(*Illustrations of some of the Principal Diseases of the Eye.*)

The following interesting case is given by Mr. Power, in his elaborate and essentially practical work *On Diseases of the Eye.* It represents the principal features of a case of syphilitic iritis:—

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* The author describes his plan as follows:—"The patient is ordered to lie in bed, to wrap round each arm a broad piece of flannel well smeared with mercurial ointment, and to wear this mercurial bandage until the gums are slightly tender, a small quantity of fresh ointment being added every evening. It is not necessary to *rub in* the ointment. I suspect that the rubbing in, by producing irritation, impairs the absorbing power of the skin." As to the rapidity with which the mercury acted, "of the nine cases in which mercury was required, one used the ointment 24 hours; a second, 24 hours, having previously taken blue pill five days without benefit; a third and fourth used the ointment 2 days; a fifth and sixth, 3 days; a seventh and eighth, 4 days; the ninth, 12 days. So that of nine cases of iritis in which mercury was used, one only required the application of the ointment for more than four days."

"H. B., aged twenty-three, a pallid, unhealthy-looking man of small stature, came to me on the 6th March, 1860, with a well-marked attack of iritis in the right eye only, the left being perfectly healthy and natural, and of a clear blue colour. He stated that about six months previously he had contracted syphilis, and then suffered from hard chancres, for which he had been under regular treatment. They lasted for three months before they healed up. The cicatrices were still present, and very distinct. About three weeks previously he had again become infected, and had now two small ulcers, with soft base, situated upon the corona glandis. There was a copper-coloured eruption of thin scaly variety over the arms, legs, chest, and abdomen. About eight or ten days previously his attention had been directed to the eyes, in consequence of their feeling dim and painful, and watery in the evening as soon as he began to read. The pain was slight in the morning, but severe at night. The lid was swollen and was kept partially closed. The sclerotica was of a uniform pink, with large conjunctival vessels running tortuously over it, and there was a strongly-defined circumcorneal zone. The cornea was perfectly clear and transparent. The iris was of dull greenish hue, strongly marked near the pupillary border with radiating striæ of rusty-coloured exudation, which formed a marked contrast to the clear tint of the opposite eye. The pupil was smaller than the other, irregular in form, with a very distinct bridle of adhesion at its lower part. The vision was so misty that he stated he could only see a glimmer of light, yet the pupil seemed clear. Hence, though I was not then aware of the diagnosis of that disease, I have no doubt now that he was suffering from syphilitic retinitis.

"The treatment adopted was the application of four leeches to the temple, the instillation of atropine (gr. iv and ℥j), and the administration of calomel (gr. ij), with opium (gr. ss) three times a day. On the 11th of March I saw him again, when he was manifestly improved. The mouth had been sore for forty-eight hours, but he had still continued the use of the pills; the vascularity of the sclerotica and conjunctiva had much diminished; the pain had almost entirely disappeared; and it is stated in the notes that the colour of the iris was almost if not completely restored. The dimness of vision was still considerable. He was, however, able to distinguish a pencil-case in a good light. On the 16th of March the pupil dilated well with atropine, except below where the tag of adhesion was too firm to admit of it. Vision was much improved, as the larger types of Jäger could be first made out. He considered himself, however, so well that he ceased to attend."

Art. 159.—*Ophthalmological Observations in Cholera.*

By Prof. A. v. Graefe.

(*Arch. f. Ophthalm.*, xii. 2; *Schmidt's Jahrbücher*, No. 6, 1867.)

The peculiar physiognomy of cholera patients is partly due to the loss of energy of the orbicular muscle and the sinking of the eyeball backwards within the orbit. In consequence of the former, the patient

is able to close his eyelid for a moment only when he is especially bidden, and when the exhaustion is not extreme. The receding of the eyeball is the result of a diminished bulk of the succulent adipose tissue of the orbit, it is therefore particularly presented when there is excessive diarrhœa, whilst in cases of early asphyxia it appears to be less marked. Many varieties of this phenomenon are presented by different individuals, which depend upon the variable size of the eyelids. Elevation of the cornea, which is also a characteristic element of the *facias cholerica*, is only apparent; the cornea is not really higher than it generally is when the lids can be closed, but when this is not accomplished, prominence of the cornea strikes the eye by reason of the sinking of the upper lid.

The conjunctivæ of cholera patients are, at the lower periphery of the front of the eyeball, traversed by blood-vessels of a bluish colour. This cyanosis ceases abruptly at the conjunctival limbus. The surface of the membrane, where it is not covered by the eyelids, is coated by small and delicate scales. Tears do not appear in cholera, even after the application of stimulating drops, and the eyelids are not glued together. Sometimes around the cornea may be observed blackish or dirty blue spots, which have their seat in the sclerotic. These are found only in cases that have a fatal termination. The appearance is caused by the drying up of the sclerotic, which allows the dark ciliary bodies to be seen through this coat. That this is so may be proved by removing the dark spots after death, when, as soon as the choroid is cut away, the sclerotic has given to it, by transmitted light, a reddish glimmer, due to the dilatation of its small veins.

In the algide stage of cholera, Von Graefe always found the pupil contracted even when the patient had not been taking opium.

The ophthalmoscopic investigations of Von Graefe upon the arrest of the circulation in the small and also in medium-sized arteries are of very great interest in connexion with the ordinary external appearances. In the branches of the arteria centralis retinæ stagnation of the blood could always be demonstrated, even though those vessels were much narrower than they usually are. So long as the debility of the heart was not extreme, the arteries pulsated on slight pressure with the finger, and on firmer pressure, such as in a healthy individual would scarcely cause pulsation, they were permanently emptied. After the cessation of the radial pulse and the two cardiac sounds, slight pressure of the finger emptied the arteries without causing pulsation. The veins of the retina were always unusually dark, and they were visible to their finest branches. Sometimes an irregular movement of the blood was observed, and also an uneven distribution of this fluid to the veins. The optic disc was found by Von Graefe to be of a pale lilac colour, which colour faded towards the centre. Nothing positive could be made out concerning the circulation in the choroid membrane of the eye.

Art. 160.—*On Simulation of Unilateral Amaurosis.*

By Alfred Graefe, of Halle.

(*Mon. Bl. f. Augenheilk.*, 1867; *Schmidt's Jahrbücher*, No. 7, 1867.)

If in a case of suspected simulation of blindness of one eye, the pretender states that he perceives a double image when a prism is placed in front of the sound eye, he is at once exposed, since the second image can only proceed from the pretended blind eye. This method, which was proposed by von Graefe, failed in the practice of the author of the present communication with a soldier who was acquainted with the properties of the prism, and invariably asserted that he perceived but one image. For the purpose of guarding against the event of a sufficient amount of intelligence on the part of the malingerer, Alfred Graefe suggests the following method:—

The eye asserted to be blind is covered by the hand of the surgeon as if without design, and a prism is held before the sound eye in such a manner that the pupil is halved vertically by the base or apex of the refracting angle. Physiological monocular double vision must now result, for the image refracted by the prism is diverted to another part of the retina than that image which passes by the side of the prism through the uncovered part of the pupil and falls upon the macula lutea. Should the malingerer assert that he perceives a single vision, during the proceeding, he would be exposed by this alone. For the sake of making the observation certain, one of the images may be coloured by using stained glass. If the hand of the surgeon be now removed, as if by accident, from the pretended blind eye, the double image will naturally remain, whether the organ be blind or not, since in the latter case, one image is binocular and the other depends upon prismatic refraction. If it be possible to change the scene without the knowledge of the subject of the experiment, the prism is slowly and imperceptibly moved so as to cover over the whole of the pupil. If the eye be really blind, one image only can now be perceived, if this is not the case, the clearly proved malingerer will continue, according to his own account, to see double, or he will, if confident that this should not be so, fall into a contradiction of his first assertion concerning the monocular double vision.

Art. 161.—*Case of Dislocation of the Eyeball through a Blow from a Cow's Horn.*

By Prof. v. Becker, of Helsingfors.

(*Arch. f. Ophthalm.*, xii. 1866; *Schmidt's Jahrbücher*, No. 3, 1867.)

A country woman, aged thirty-two years, was, several months ago, struck in the left eye by the horn of a cow. She was senseless for four days, and suffered for some time from local inflammation. She was told by people, and even by a medical man, that the left eye had

been torn out, whilst she herself maintained that it had been driven into the head.

At the first sight nothing else could be conceived but that the eyeball was completely removed. In addition to a cicatrix involving the upper eyelid along its orbital margin, the half-opened cleft between the lids was seen to be vacant, and the upper lid was retracted. The lower lid was distended, and hung down loosely over the cheek. The conjunctiva was slightly congested, and presented behind the upper lid a whitish stellate scar; when the lower lid was everted an œdematous swelling of the mucous membrane projected in the situation of the retro-tarsal fold both externally and within. The end of the finger could be passed into the orbit to an extent of almost twenty millimetres without meeting with any obstacle. After the lower lid and the conjunctival swelling had been forcibly drawn downwards, there would be seen close over the lower osseous margin of the orbit, the upper part of the cornea, a portion of the bluish-grey iris, and also some of the pupil. The patient was able to distinguish a finger held up. After the administration of chloroform, the finger could be carried round the upper part of the equator of the eyeball, and the superior oblique muscle could be felt. Below and on the inner side the eyeball was firmly fixed. Professor Becker attempted to break down some adhesions in the vicinity of the lachrymal sac, but after a time desisted, since the whole bulb could hardly be restored to its proper position and regain its mobility.

Professor Becker thinks that the horn was thrust from the outer side through the upper lid and conjunctiva, and struck the eyeball from behind, rotating it inwards and downwards. The point of the horn fractured the lachrymal and ethmoid bones and probably the inner corner of the floor of the orbit, leaving the infra-orbital margin itself free. In this chasm the soft parts were driven, and healed in that position, together with the adducted and depressed eyeball, the cornea of which was rotated downwards. The optic nerve remained uninjured, but the infra-orbital nerve was pressed upon or torn, for there was insensibility of the lower lid, the root of the nose, and the cheek; there was also aching of the teeth of the upper jaw on the left side.

Art. 162.—*Case of Pulsating Tumour in the Orbit cured by Ligature of the Common Carotid Artery.*

By Joseph Bell, F.R.C.S., Lecturer on Surgery, Edinburgh.

(*Edinburgh Medical Journal*, July, 1867.)

Subjoined is a distinctly marked case of this very rare and interesting disease:—

"Adam Moffat, æt. forty-two, a strongly-made shepherd from Morebattle, called at my house on the 13th of April, 1867. He stated that about thirteen months before he had been knocked down by an omnibus in Jedburgh, and he thinks the wheel passed over his head. His lower jaw was fractured, and his head was cut; a deep scar still remains over his left eyebrow. Ever since the accident he has had occasional paroxysms of most intense headache, chiefly on the *right* side, along with a constant

sense of "confusion," accompained by the noise to be described immediately. He has noticed a protrusion of his *left* eyeball, gradually increasing for the last year, and for six months his sight in it has been steadily and rapidly diminishing, so that it is almost useless to him. He feels this the more, for his *right* eye is almost blind from a very dense central nebula which occurred some months ago in the course of a rapid inflammation of the cornea, which, from his account, was so slight as hardly to account for the density and size of the cicatrix. Since October he has been unable from blindness to follow his occupation as a shepherd, and now cannot distinguish individuals, or even recognise the presence of a large picture in a dark frame on a light-coloured wall. His spirits are exceedingly depressed, tongue foul, and indented by his teeth; pulse good, about 72.

"*Present state.*—The left eyeball is projected quite out of the orbit, and the cornea protrudes beyond the vertical plane of the bridge of his nose, which is prominent. Both eyelids are stretched and everted, especially the lower one, the conjunctival surface of which is displayed in its whole length, and to a breadth of more than half an inch. Constant watering from the eversion of the punctum gives him great annoyance. By a violent effort of the *orbicularis* he is able to make the eyelids almost meet over the eyeball; but in general, and when he is asleep, they leave more than one-third of the cornea exposed. This portion is already dim and lustreless from the exposure. The tumour in the orbit has a distinct pulsation synchronous with the heart, can be diminished in size by pressure, and is exceedingly soft. One specially prominent rounded tumour, just above the ball, projects in the shape and size of a filbert, and is very soft. The supra-orbital artery and vein are both very much enlarged and tortuous. The artery, nearly as large as the radial, pulsates feebly. Temporal arteries are quite normal. There is a well-marked aneurismal bruit to be heard all over the head and neck, which apparently centres about the back of the orbit. It is distressingly audible to the patient, resembling, he says, the measured beat of an engine. This has been present with very little intermission since the accident, from which so many of his symptoms seem to result.

"He has had very frequent attacks of most intense headache, which is confined to the *right* side of his head and face, and is accompanied by heat and vascularity of the surface.

"By holding the book very close to his eyes, in a strong light, he can distinguish XXX. of Snellen's test type. Pulsation in the tumour and the bruit in the head cease on firm compression of the left carotid in the neck.

"On his own authority he had been vainly endeavouring to burn down the protruding eye and lids by caustic, probably nitrate of silver, which, as may be supposed, did not much improve the condition of the parts. He is exceedingly anxious for any operation, however formidable, which may have a chance of affording relief.

"*Operation.*—15th April.—To-day, assisted by Mr. Bell, Drs. Wilson and Downie, and Messrs. Finlay, Dale, and Vartan, I tied the left common carotid artery just above the omo-hyoid. The patient's neck was short and muscular, so the fleshy belly of the omo-hyoid had to be drawn downwards, and the sterno-mastoid outwards. The de-

scendens noni was seen and easily avoided. The vein was very large and distended, so as completely to overlap the artery, but was cautiously held aside, and then the vessel was easily exposed and isolated; a muscular branch to the sterno-mastoid was the only one that required to be tied.

"5 P.M.—Three hours after the operation, pulsation in the tumour is almost gone, and the eye is already less prominent.

"Very few details need be transcribed, since the progress of the case was as uneventful as could have been wished.

"16th.—Intense headache on right side of forehead and face.

"17th.—A full dose of castor-oil relieved the headache with the evacuations.

"18th.—Greatly pleased at being able to recognise bright brass buttons on his nurse's dress. Pulsation gone; the bruit has ceased since the operation, except for a few minutes on the same evening.

"19th.—To-day he can tell the time on my watch; is hungry, and, for the first time, is seen to grin.

"23rd.—Nothing to report. To-day reads XII. Snellen.

"2nd May.—No symptoms to note; tumour rapidly diminishing; but as the conjunctiva of lower lid still projects, and is everted, I cut off a long slice of it with curved scissors.

"3rd.—To-day ligature came away (nineteenth day). He reads VIII. Snellen, and can see distant objects almost as well as ever he did.

"4th.—When up to-day he found a pair of biconvex lenses, used for distant vision after extraction of the lens, and is much delighted to discover that with them he can read $3\frac{1}{2}$ Snellen—(about the size of the leaders of the *Scotsman*).

"5th.—To-day had a long walk to see the town,—in fact, cannot be kept in the house; reads 6 without glasses.

"6th.—Insists on going home—to report progress in a month.

"To those familiar with the literature of the subject, this case," Dr. Bell says, "will recall those by Busk, Curling, and Nunnely. In one or two points it has special interest:—1. That it involved the patient's only useful eye, so that the amount of loss of vision was a notable symptom, and its rapid improvement equally marked; 2. The peculiar condition of the supra-orbital artery and vein; 3. The unexpected improvement in power of vision which the biconvex lens gave."

ART. 163.—*A Case of Cysticercus Cellulosæ in the Interior of the Eyeball: Removal of the same by Operation.*

By Prof. ARLT, of Vienna.

(*Allgemeine Wiener m. Zeitung*, No. 27, 1867.)

The subject of this paper was a peasant, thirty-four years of age, and a native of Hradek, in North Hungary. He had always had perfect health, and had not suffered from any ophthalmic affection until the month of February, 1867, when the visual power of the right eye became impaired for the first time without any appreciable cause. The patient

asserted that he could see plainly with this eye only those objects that were placed on the outer side, whilst the central vision was at first cloudy and at a later period quite indistinct. He had never experienced any pain. About the 14th of June he applied to Professor Arlt's ophthalmic clinic for relief. On examination no external pathological changes were presented by the right eye. The media were clear, although there was considerable impairment of central vision, whilst objects at the external periphery of the visual field could be clearly perceived. On examination with the ophthalmoscope, a projection into the interior of the eye was discovered, which was at first sight taken for an elevation of the retina, but subsequently this round projection, which was placed more in front and below than behind, seemed to be formed by a new growth situated between the choroid coat and the retina.

After a closer examination an accurate idea of the diagnosis was for the first time attained. The form of the projection pointed to a cystic formation by which the retina was elevated, and instead of presenting its normal transparency, rendered slightly opaque; the diagnosis was at last cleared up, when movements somewhat resembling those of a peristaltic nature were perceived at this spot. Although no head or circle hooklets could be distinguished in the tumour, the case seemed to be, without doubt, one of a parasite in the eye, in fact a cysticercus having its seat between the retina and choroid.

After due dilatation of the pupil by atropine drops, the seat of the cysticercus could be determined with greater accuracy. It was not at the fundus of the globe but at a spot in front of and below this, at that part of the retina which is between the ora serrata and the equator of the globe; the tumour projected so far into the interior of the eye that part of the back part of the cavity was inaccessible to ophthalmoscopic examination; the insertion of the optic nerve and the optic papilla could not be perceived, and it was only by the direction taken by the radiating radicles towards the central vessels that the place of entrance of the optic nerve could be determined. The size of the bladder was considerable, even when the magnifying powers of the ophthalmoscope were taken into consideration.

After the presence of a cysticercus within the eye had been determined without doubt, the question as to its removal from the organ remained. The chances of the operation were favourable, and the place for the performance of the operation was also favourably situated by reason of its occupying a forward position and one at the outer part of the globe. In order to reach the cysticercus, an incision would necessarily have to be made between the internal and inferior recti muscles.

The operation was performed on June 22nd, but on the previous evening a change had taken place which essentially modified the plan of operation; the cysticercus had, in fact, moved toward the inner side of the globe, and it was evident that the incision would have to be made at a less accessible spot—namely, at the inner part of the eye.

The patient was narcotized, and a seton was inserted into the ocular conjunctiva near to the lower and inner segment of the cornea, the ends of which were carried upwards, backwards, and outwards, and given to an assistant standing behind the patient. By this the globe could be

turned upwards and to the outer side. The lower eyelid was drawn downwards by another assistant in order to obtain clear ground and a free access to the sclerotica.

The conjunctiva and the tunica vaginalis bulbi were now divided, and then, with Beer's cataract-knife, a straight incision, four lines in length, was made in the sclerotic coat in a part between the internal and inferior rectus. The incision was made perpendicularly to the bulb, and was carried from without inwards, passing through sclerotic and choroid coats, it reached from the ora serrata to a point somewhat beyond the equator of the bulb. As soon as these membranes were cut through, the cysticercus spontaneously projected. This was now seized by forceps and removed from the globe. Its size was not so considerable as might have been expected from the ophthalmoscopic examination, although it was quite as large as a sugar comfit; the hæmorrhage was not of importance. The vitreous remained uninjured and did not protrude.

The bladder, which was slightly compressed by the forceps, gave no signs of life, although immediately after its extraction it was placed in warm milk. The wound in the eye healed spontaneously in forty-eight hours without any reaction, and it was proved by this case, that wounds of the sclerotic, which formerly were so much dreaded, are not really so dangerous; it is also worthy of remark that the portion of retina elevated by the cysticercus returned to its normal position.

The power of vision has not, however, improved to any great extent up to the present time (June 28th). The central vision is still impaired, whilst at the periphery, and especially at the outer part, the visual power is somewhat improved.

The cysticercus bladder was handed over for further examination to Professor Wedl, who succeeded in demonstrating very clearly the presence of a *head and circle of* hooks.

Art. 164.—*On Catarrhal Inflammation of the Cavity of the Tympanum occurring in Young Persons.*

By Dr. Roosa.

(*American Journal of Medical Science.*)

Dr. Roosa in this communication refers to one of the forms of catarrhal inflammation of the tympanum which proves very amenable to treatment. It may come on without any positive exciting cause, more or less impairment of hearing gradually taking place, with little or no pain.

"Objectively, the following symptoms are observed:—The pharynx is found in a state of inflammation; little elevations, like granulations, are seen on its surface, and the secretion is in excess. The tonsils may or may not be hypertrophied. The membrana tympani, instead of having its normal 'neutral grey' colour is of a pinkish hue, with an exceedingly brilliant appearance. The vessels are not generally to be dis-

tinctly traced on any part of it. The triangular light spot is either entirely absent or is smaller than normal, indicating that the position of the drum is changed.

"The observance of hygienic rules, the exhibition of various therapeutical agents, and due attention to the condition of the mucous membrane of the pharynx, will in time bring relief in these cases, but the impairment of hearing is a symptom which long remains troublesome. We have, however, the means at our hands, in Politzer's method of rendering the Eustachian tube pervious, of instantly improving the hearing, thus removing the most embarrassing symptom, while we go on with the proper general treatment, curing the disease on which this symptom depends. It may be supposed that the impairment of hearing in these cases is due to a plugging up of the faucial orifice and the calibre of the tube by mucus, which is suddenly expelled by the column of air driven in. . . . It is confidently asserted that the use of Politzer's method in the treatment of this class of patients will render the progress of the case highly satisfactory, which under the old method could hardly be said to be the case. After the first use of the instrument the improvement which occurs will probably only last a day or two, but I have never known the hearing to have become worse, and the repeated (say three times a week) practising of the method will render the improvement permanent. It is only an adjuvant, a fact carefully to be kept in mind; and the necessary general treatment should never be lost sight of. I was led to the attachment of a bulb or inhaler containing tincture of iodine to the simple apparatus of Politzer, from the need felt of introducing some substance into the cavity of the tympanum which should promote absorption in the mucous membrane of the tube and middle ear. This want is supplied by the introduction of the iodized air; and my experience serves to show that the combination produces a more powerful and permanent effect than is produced by the use of simple air."

Art. 165.—*Removing Indurated Cerumen from the Meatus Auditorius.*

(*Berlin. Wochens.*, No. 21; and *Medical Times and Gazette*, July 27, 1867.)

Dr. Coesfield states that every practitioner is aware how difficult and tedious is the process of removing very old or adherent plugs of cerumen from the meatus by mere syringing with warm water. He adds that the procedure is facilitated and expedited in a remarkable manner by first introducing, once or twice a day, for two days in succession, a half-teaspoonful of a warm solution (℥j ad ℥j) of carbonate of soda into the meatus, and retaining it there during fifteen minutes. After this, from four to six syringefuls of warm water suffice to dislodge the chemically acted upon cerumen, the water reissuing from the meatus of a brownish-yellow colour until all the wax has come away. If the removal of the wax were very pressing a warm solution of soda might be resorted to, instead of warm water.

Art. 166.—*On Obstructions of the Ear Passage by Ceruminous Concretions.*

By F. Böning.

(*Hannov. Zeitschr. für Heilkunde*, 1867 ; *Aerztliches Literaturblatt*, No. 9, 1867.)

Seven cases of obstruction of the ear by wax were observed by Dr. Böning during the previous year. The well known symptoms of increased intra-auricular pressure were made out, such as subjective noises, vertigo, and also impaired hearing, varying in intensity frequently during the day according to the position of the ceruminous plug. The wax is always removed by glycerine drops and the injection of water. In two cases inflammation of the membrana tympani came on after a cautious removal of a concretion lying near that membrane, and lasted for fourteen days. Caution in the removal of the wax by injection cannot be recommended too much. The surgeon who endeavours to remove it by a Charrière's syringe of a large calibre and cold water will frequently do mischief. The instrument to be recommended is Troeltsch's small ear syringe. After the injection the external auditory orifice should be closed with wool. The author mentions a case in which the hearing of the affected ear had been impaired for five years, and was not improved after the removal of the ceruminous concretion; he assumes that this was the result of a retrograde metamorphosis of the auditory nervous apparatus, caused by great and long continued pressure on the fluid of the labyrinth. In another case considerable thickening of the dermoid tunic of the membrana tympani followed a ceruminous concretion, and perfect hearing was not restored before this had been restored to its normal condition by the application of a solution of nitrate of silver. Böning remarks, in conclusion, that ceruminous concretions occur only in those whose skin is rich in sebaceous matter.

Diffuse external otitis was observed in its acute and chronic form by Dr. Böning, who thinks that the diagnosis is not always easy, and that suppurative processes going on in the tympanum are often treated superficially, to the disadvantage of the patient. Idiopathic inflammation is much less frequent than is generally supposed, and in cases of considerable impairment of hearing the diagnosis must be made with caution. Only by the closest examination of the whole of the external auditory passage of the membrana tympani and tympanum by means of the catheter will deception be guarded against. Every practitioner knows how difficult it is to cure a chronic external otitis. Hundreds of children of poor people can readily be found whose ears constantly secrete a thick, offensive, and yellow discharge. The affection would be less common if the acute form which so frequently precedes the chronic was more carefully treated, if leeches were not spared, and if, on the other hand, the pernicious practice of applying cataplasms, chamomile poultices, injections, and drops of oil was avoided. The integument of the ear passages swells more and more by the action of the fomentations, the outer layer of the membrana tympani is so

much thickened, that the manubrium and the short process of the malleus become hidden from sight, and the above-mentioned discharge trickles from the contracted auditory passage, into which the introduction of an ear speculum soon becomes no longer possible. With inappropriate treatment, a polypoid formation will probably be developed, or the membrana tympani be ruptured. At a later period partial necrosis of the osseous auditory passage may result, and in consequence of the anatomical relations of this part a simple external otitis may lead to suppurative inflammation of the meninges of the brain.

Dr. Böning furthermore directs attention to another complication that has been but little observed. The cartilage of the auditory passage, like that of the trachea, is made up of cartilaginous rings. Between two of these rings a deep fistulous canal frequently passes, by the closure of which, resulting usually from the swelling of the walls after an injection, abscesses are formed in the neighbourhood of the ear, as, for instance, in the mastoid cells. The best practice is to leave these abscesses unopened, as they generally empty themselves into the ear passage. The following is Böning's treatment of acute otitis :—The application of from two to four leeches to the front of the ear; frequent filling of the ear passages with lukewarm water, which should be allowed to remain from five to ten minutes. Syringing is not generally recommended by the author. Excoriation and eczema of the pinna are prevented by the external application of oil of almonds or glycerine. After the filling of the ear with lukewarm water, application is made of drops of solution of alum (gr. ij—xx to ℥j), acetate of lead (gr. v—ʒj to ℥j), or of tanno-glycerin (gr. v—xv to ℥j). When the articular layer of the membrana tympani remains thickened, it should be brushed over with a solution of nitrate of silver (gr. x to ℥j). Internally, anti-scrofulous treatment. The contraction of the auditory passage, resulting from external otitis, has several times in Böning's practice been decidedly improved by the introduction of pieces of laminaria. The sea-tangle, before its introduction, was softened in a solution of bromide of potassium, and lukewarm water was poured over it after it had been pressed into the ear. Böning removes polypoid growths from the auditory passage by means of Wilde's polypus noose.

Art. 167.—*On the Treatment of Ozæna.*

By Christopher Heath, F.R.C.S., Assistant-Surgeon to University College Hospital, and Teacher of Operative Surgery in University College, London.

(*The Lancet*, July 13, 1867.)

In the *Lancet* of November 26th, 1864, Dr. Thudichum called attention to a novel method of cleansing the nasal cavities in cases of offensive discharge, depending upon the anatomical fact that when the mouth is open the soft palate so effectually shuts off the posterior nares that fluid will pass from one nostril to the other behind the septum, without

descending into the pharynx. Having during the last two years repeatedly availed himself of this method of treating disease of the nasal cavities, Mr. Heath ventures to lay his experience of it before the profession, since its merits are as yet, he believes, scarcely appreciated.

Dr. Thudichum himself interfered much with the popularization of his plan by the elaborate details into which he entered respecting the fluids to be used, and the complicated and expensive apparatus he recommended to be employed. Mr. Heath's experience does not coincide with that of Dr. Thudichum as regards the irritating effect to the Schneiderian membrane of pure water; at least when warmed.

With regard to apparatus for a patient's use, simplicity is of the greatest importance. The apparatus Mr. Heath employs is simply a stout india-rubber tube five or six feet long, with a perforated metal weight at one end, so grooved that water can pass through it when standing on a flat surface. At the other end is an ordinary gum-elastic enema nozzle, which may be perforated with more than one hole if preferred. The whole arrangement was contrived by Dr. Rasch as a vaginal douche, and is described by him in the *Obstetrical Transactions*. The entire tube may be bought for five shillings, of Lewis, of the City-road, or of Coxeter, of Grafton-street.

The following is the mode of using the tube. An ordinary ewer being filled with tepid water, the weighted end is dropped into it, and the tube "payed in" for two or three feet. The ewer being then raised upon a chest of drawers or some convenient elevation, the patient squeezes the tube in the water, and draws it over the lip of the ewer, when being converted into a syphon, the water immediately begins to flow along it. Perfect control can be exercised over the water by the pressure of the finger and thumb, whilst the patient places his head over a basin and inserts the nozzle into his nostril. On permitting the flow of the water, a stream is immediately established between the nostrils so long as the mouth is kept open; and the current can be reversed, arrested, or diminished with the greatest readiness.

The immediate relief to both the patient and his friends by simply washing out the nostrils in this manner in a case of ozæna is very remarkable. Not long since a young woman suffering from this affection told Mr. Heath that she had lost a situation on account of the offensive odour she exhaled, and begged for a certificate that she would be no longer offensive to others. In this case on the first use of the tube, enormous pellets of stinking matter came away; and by the subsequent use of a disinfecting lotion she was rendered perfectly comfortable.

The simplest disinfectant is the permanganate of potash; and, in mild cases, this will alone often effect a cure. More active chemical solutions can be employed in suitable cases; and it is by no means necessary to employ large quantities of these, since, as pointed out by Dr. Rasch, by compressing the end of the tube whilst full of water it can be transferred to a small vessel holding the lotion, and will still act as a syphon.

In addition to frequent washing of the nostrils, Mr. Heath has em-

ployed with advantage in cases of ozæna the use of tannin as a snuff, taking the hint from a paper on *Nasal Polypus* by Mr. Bryant (the *Lancet*, 27th February, 1867); but a more elegant and perhaps satisfactory way of using the same agent is that employed by Mr. Davey, of Romford—viz., in solution with glycerine (tannin, one or two grains; glycerine, one fluid drachm; water, one fluid ounce), and blown into the nostril with a spray-producer. This has the advantage of more fully spreading through the cavity, and the method may be advantageously employed in those cases of polypus nasi in which the nostril is so completely blocked that the patient cannot snuff up, an instance of which lately came under Mr. Heath's notice.

Medicinal constitutional treatment will be required in many cases of ozæna in order to effect a cure; but careful attention to diet and hygienic measures must not be neglected, especially in children of a strumous character. The topical application of nitrate of silver, &c., may be occasionally requisite when ulceration is clearly visible, and ointments may be applied on a camel-hair brush with advantage near the nasal orifices, so as to prevent caking of the mucus during sleep. In order to examine the interior of the nostril, a good light is necessary either from the sun or a lamp, when, if the rays are properly directed, and the nostril is held open with a director or small spatula, or, if preferred, with a bivalve ear-speculum previously warmed, a good view of the interior will be obtained. Mr. Heath has employed the endoscope in order to examine the nose, and in one instance—a gentleman whom he saw in consultation with Dr. Easton some months back—the nostril had been so dilated by the long-continued manipulations of the patient that he was able to use the endoscopic tube ordinarily employed for the examination of the rectum. This patient derived great comfort from the use of the tube to wash out the nostril, but did not continue under treatment long enough for a cure to be effected.

Art. 168.—*On the Complications and Treatment of Fracture of the Cartilaginous Septum of the Nasal Fossæ.*

By Prof. Jarjavay.

(*Gazette Hebdomadaire*, No. 30, 1867; *Bulletin Général de Thérapeutique*, June 30, 1867.)

The majority of classic authors have rested contented with indicating amongst the complications of contusions of the nose, the sanguineous and purulent tumours which may follow these injuries, and most of them have repeated the precept of J. L. Petit, who advised that the abscess should be opened by natural means. Fleming suggested the possibility of fracture of the cartilage of the septum, but he gave no demonstrations. Hippocrates, however, described fractures of this cartilage, and although he did not separate them from his general description of fractures of the nose, he seems to have considered with great care the treatment of this lesion.

M. Jarjavay has for a long time endeavoured to demonstrate the existence of this fracture, and has established in his memoir, by means of fourteen cases, eight of which occurred in his own practice, the fact that sanguineous and purulent tumours of the nasal septum, which have followed a contusion of the nose, are not primary affections, but rather complications of a solution of continuity of the cartilage. These cases are grouped under three headings: simple fractures, fractures complicated with sanguineous or purulent effusion, some of which exist in connexion with an opening upon the bridge of the nose, others without this fistula.

The following are the conclusions derived from these observations :—

A violent blow upon the nose may produce a fracture of the cartilage of the nasal septum, and even break through the fibrous adhesions which fix the alar cartilages to the inferior borders of the nasal bones. This fracture may be united without consecutive complication. The symptoms of simple fracture are these: nasal hæmorrhage at the time of the accident, which ceases spontaneously; next, swelling and slight redness of the integument of the nose; pain in the contused region; abnormal mobility of the whole of the cartilaginous portion; crepitation similar to a crackling (*claquement*) when the part seized between the thumb and index and middle finger is moved from side to side; acute pain on pressure with the finger, resting directly below the proper bones of the nose; at the same time the cartilaginous portion becomes flattened and the surgeon experiences a sensation of want of resistance of the cartilage of the septum. In some cases this flattening is presented without any pressure, and persists even after recovery. In a few days after the accident the voice is slightly nasal in character; in one case, the finger introduced into the right nasal fossa discovered the inferior fragment of the cartilage dislocated to the left side. This fracture is not serious, the only inconvenience that may result is a concave incurvation, or a lateral deviation of the bridge of the nose.

Fracture of the cartilage of the septum may be complicated with a wound upon the bridge of the nose, and sanguineous effusion or abscess of the partition. The solution of continuity becomes fistulous, and the blood or pus of the swelling of the septum makes its way outwards by an opening upon the bridge of the nose. The quantity of pus is in marked disproportion to the extent of the wound. It can be made to gush out by compressing the sides of the nose between the index finger and thumb. A probe introduced by the orifice of the fistula penetrates into the septum, and passes through the cavity of the abscess which is bounded externally by the stripped off mucous membrane, and internally by the cartilage. The fistulous opening on the bridge of the nose generally heals up with rapidity after an issue has been given to the pus by a counter opening made at the most dependent part of the purulent swellings of the septum. If a probe be introduced through this counter opening, a separation of the mucous membrane from the cartilage can be made out, and also an opening in the septum, through which the instrument can be passed from one nasal cavity to the other.

Fracture of the cartilage of the septum may be complicated with conguineous or purulent swellings, without any communication existing

between the morbid cavity and the exterior of the body, that is to say, without wound or fistulous orifice upon the bridge of the nose. The sanguineous tumour is developed a short time after the accident, and causes more or less obstruction to respiration. If a puncture be made early by the surgeon, effused blood flows away mixed with black clots, and is replaced on the following day by sanguinolent serosity, and finally, by an almost wholly transparent serous discharge; if, on the other hand, the sanguineous tumour has not been developed to such an extent as to prevent completely the passage of air by the nostrils in the act of respiration, in which case the patient has probably not had recourse to art, cephalalgia comes on between the fifth or sixth day, and on about the thirtieth, the integuments of the nose are swollen, and become red and œdematous. The upper and middle parts of the forehead are likewise involved. Under the influence of this inflammatory process, the nasal swellings become larger and obstruct completely the cavities of the nose. The patient then applies to a surgeon who quickly recognises the purulent swellings of the septum so well described by J. Cloquet and Arnal, Fleming and A. Bérard, who considered them as a special affection, whilst M. Jarjavay believes himself justified in declaring them to be a complication of fracture. The same phenomena are developed in those cases where a wound in communication with the sanguineous tumour exists upon the bridge of the nose, because although the patient is able to expel some blood from this orifice by compressing the cartilaginous portion of the nasal organ between thumb and finger, a certain quantity of the fluid always remains at the bottom of the sac formed by the detached mucous membrane. The surgeon should, as soon as he has diagnosed this lesion, make a counter opening on each side of the septum.

Art. 169.—*On Dermoid Cysts of the Floor of the Mouth.*

By M. A. Paquet.

(*Archives Générales de Médecine*, July, 1867.)

The floor of the mouth may be the seat of many varieties of tumours, some of which spring from and are developed in a part unconnected with the sublingual cavity and invade it consecutively; others, more numerous perhaps, present themselves there at the first onset. Among the latter are the sublingual dermoid cysts; the rarity of these on the one hand, and the difficulty of diagnosis, and the uncertainty of the therapeutical means which are applied to them, render their study important.

M. Paquet gives a detailed report of a case which occurred in the practice of Professor Denonvilliers. The patient was a female, aged seventeen years, who had been affected for five years with a swelling which occupied the left side of the floor of the mouth, and projected into the subhyoid region. This swelling was painless, about the size of a turkey's egg, rounded in shape, smooth, and, though not very moveable from side to side, was not adherent to the skin. The mucous membrane covering the buccal surface was of a bluish colour; it did

not present the transparency of a ranula, or the pale colour which is given as a sign of the sublingual dermoid cysts, but a marked turgescence of the veins from the compression excited by the tumour on the neighbouring vessels. The tongue was pushed upwards and to the right, but no impression had been made upon the inferior dental arch. On the surface of the swelling could he perceived the orifice of Wharton's duct, and by exciting this a jet of saliva could be made to flow out. The dentinal fluctuation could be felt, but there was an absence of impressibility in all parts of the growth. M. Denonvilliers removed the tumour by incision and enucleation, and on examination it was found to be constituted in the following manner:—

A capsule made up of two tunics, the outer of which consisted of loose cellular tissue, rich in fine elastic fibres and in vessels, and the inner of several layers of stratified pavement epithelium, finely granular, and distinctly nucleated, which in the deep layers was in a condition of very active proliferation.

The contents of the tumour resembled those of all sebaceous cysts, and when examined under the microscope presented:—

1st. Large sebaceous cells, polyhedral through reciprocal pressure, devoid of nuclei, with transparent walls, thick and in small numbers, infiltrated with fatty granulations.

2nd. Agglomerated fatty granulations.

3rd. Granular corpuscles, formed by the accumulation of fat globules.

4th. Crystals of cholesterine.

Every variety of dermoid cyst has been met with in the sublingual region. MM. Denonvilliers and Verneuil have met with hairy dermoid cysts, and Dr. Schill has communicated the history of a man, fifty years of age, in whom, during the space of three months, three teeth had been successfully developed in distinct capsules situated below the tongue, but in no way connected with the maxillary bone. Analogous formations have also been observed in other mucous membranes. Ruysch mentions a case of atheroma in the stomach, which contained four molar teeth; and Fabricius Hildanus makes mention of a similar tumour in the intestines of a woman, aged fifty years. In the opinion of M. Verneuil the dermoid cysts of the floor of the mouth, like those found in other regions, may sometimes be congenital.

The dermoid cysts of the floor of the mouth have not always the same situation. Sometimes they are developed between the genio-glossal muscles; and then they are bound down above by the union of these muscles, and are not very moveable. These have also a tendency to spread laterally, and to occupy the triangular spaces formed by the genio-glossal and mylohyoid muscles. Sometimes, on the other hand, they take origin from the lateral parts of the sublingual region, and then they always affect a certain degree of mobility; for they are not united to the neighbouring parts except by very acute adhesions, and are very easily enucleated.

The special characters attributed to these dermoid cysts are—softness, false fluctuation, opacity, and pale colour, and preservation of the print of the finger when they are compressed.

Softness is always a secondary sign, and is subordinate to the amount of distension of the pouch.

The application of the sign of false fluctuation to the diagnosis of sublingual tumours is attended with extreme difficulty. If the cyst be developed between the genio-glossal muscles, the reunion of these two present a point d'appui sufficient for the fingers applied to the part of the tumour projecting into the suprahyoid region to experience a very distinct sensation of fluctuation; but when the tumour is unilateral, without firm adhesions, and constantly apt to slip under the finger, it is necessary to fix it by pushing it towards the interior of the mouth by the thumb applied to the suprahyoid region, and then to feel for fluctuation with the finger placed upon its buccal surface.

Opacity is a character common to the sublingual dermoid cysts and the solid tumours of this region; the pale yellowish colour would be a good symptom if it were more frequent. Many cases of ranula have been observed in which the bluish transparency of the mucous membrane was wanting; but on the other hand, in the majority of cases of dermoid cysts, the mucous membrane covering the tumour was of a rosy colour, traversed by numerous veins, but not presenting the opacity with the yellow coloration.

M. Paquet does not attach much practical importance to the last of the distinctive signs, by that of retaining the impression of the finger, and he thinks that the chief elements of diagnosis should be derived from studying the development of the tumour, and from an exploratory puncturing. These cysts have generally a slower progress than ranula. They do not appear to be susceptible of spontaneous inflammation. When simply incised and emptied of their contents, the sebaceous matter is reproduced, but subsequent fistulæ have never been observed.

On account of the very active vitality of the sac, and the extremely abundant cellular proliferation, there is no method of curing sublingual dermoid tumours except by complete destruction of the cyst. Caustic injections merely modify the inner layers of the sac, and setons produce the same result; the growth returns after a time, even when it has been discharged by partial excision and cauterization.

Ought the tumour to be removed by an incision made within the mouth, or from one in the suprahyoid region? This question cannot be answered generally; it must depend upon the precise seat of the growth, and, as occurs in the majority of operations, each particular case presents special indications.

Art. 170.—*Cancer of the Tongue.*

(*The Lancet*, February 16, 1867.)

"We saw Mr. Paget cut away about one-fourth of an old man's tongue on Saturday, in the operating theatre of St. Bartholomew's. The surgeon stood behind the patient, who was seated in a chair, and, grasping the organ with a vulsellum held in the left hand, he transfixed it with

a knife and rapidly cut away the diseased portion. A few ounces only of blood—perhaps four or five—were lost ere the vessels were secured. The man had no chloroform. The diseased mass presented a deep ulcer with hardened base and prominent inverted edges, so characteristic of cancer. Mr. Paget remarked that the écraseur was not needed for removal of a moderate portion of the tongue; there was not more hæmorrhage than could be easily dealt with in the ordinary way. We have seen of late in this hospital several cases in which the whole tongue has been removed for carcinoma, nothing but a slight stump composed of the root being left. Notwithstanding this mutilation, the articulation is singularly good, and, paradoxical as it appears, even lingual sounds are formed so as to be perfectly intelligible. In a case of Mr. Paget's, a man of fifty, who spoke to us on the third day after the operation, we remarked that even the word 'the' was quite distinct. The patient used his lips for the utterance of the sound. So it was also in an old man whose tongue Mr. Callender had cut out by the écraseur, who could talk and eat with singularly little difficulty."

Art. 171.—*Ligature of the Lingual Arteries.*

By M. Demarquay.

(*Medical Times and Gazette,* October 19, 1867.)

M. Demarquay read at the Academy of Medicine a memoir on ligature of the lingual artery, founded on eight cases which have occurred in his own practice and on the records of other observers. He comes to the conclusions that the operation is not a difficult one, and that indications for its performance are not of unfrequent occurrence. In several instances the lingual has been tied for the purpose of arresting hæmorrhage, and this has always been arrested; and he asks why the preventive ligature of the arteries of the tongue should not be resorted to when a large tumour occupying the deep part of the organ has to be removed, for, as every one knows, whatever the form of procedure employed in such an operation, hæmorrhage is to be expected. But the main point he draws attention to is the advantageous results which follow the ligature of both linguals for the purpose of inducing atrophy of cancerous tumours of the tongue, and enabling the subjects of such to prolong their existence. In three cases he has practised the operation on patients in such unfavourable conditions, and the result has always answered his expectations. The immediate consequences of the operation have always been very simple, and, beyond some amount of temporary dysphagia, due to the proximity of the artery to the pharynx, nothing has intervened to impede rapid recovery. Of course, no expectation of curing the cancer by this means is entertained by M. Demarquay. He believes that Blandin's method of exposing and tying the artery is the best.

Art. 172.—*On the proper Means to lessen the Inconveniences resulting from Hæmorrhage in certain Operations performed upon the Face.*

By M. Verneuil.

(*Gazette Hebdomadaire*, No. 32, 1867.)

The following is the substance of a paper read before the Academy of Medicine:—

Hæmorrhage causes great embarrassment in operations in the interior of the mouth or on the walls of this cavity. In operations performed on the tongue, jaws, cheeks, lips, or nasal fossæ, the blood, which flows profusely, fills the mouth and nose, and passes into the pharynx, exciting the movements of that organ and nausea, which repeatedly interrupt the operation and retard its performance; sometimes it penetrates into the air passages, and occasions cough and even symptoms of suffocation; it also deranges the accomplishment and rapidity of the operation by obstructing the view of the instrument; finally, the alarming copiousness of the hæmorrhage frequently causes the operator to proceed with too great rapidity.

These, however, are not all the difficulties; the blood flows into the gullet, sometimes in considerable quantity, and is swallowed and accumulates in the stomach; it is afterwards either rejected by vomiting, or is slowly and painfully digested, causing in either case extreme disturbance of the alimentary passages.

The flow of blood into the pharynx may be hindered by placing the patient in the sitting position, but this attitude, besides being fatiguing for the patient, and not so easy for the surgeon, has the serious inconvenience of disposing to syncope; for this reason the benefits of complete anæsthesia are denied to the patient, for fear that when the reflex actions are abolished, the blood may pass into the air passages no longer protected by the special sensibility of their orifice.

Attempts have been made to lessen the inconveniences resulting from hæmorrhage, and also from the deprivation of complete anæsthesia, in cases where the rich nervous supply of the region operated on renders it so desirable. With regard to anæsthesia, the patient is narcotised at first, as for the superficial incisions; but if the operation be long, or if it involve deep parts, sensibility returns long before the surgeon has completed it. A number of very valuable methods have been used to guard against hæmorrhage, as cauterization, the galvanic cautery, preliminary ligature of arteries, &c., but it must be confessed that the great number of mutilations performed on the face have not been benefited by these means.

M. Verneuil considered that something remained to be done in order to prevent, control, or at least moderate the flow of blood into the pharynx, and to afford to the patient at the same time all the benefits of sleep. He believes that he has attained these objects by means of certain very simple accessory precautions, causing no danger in themselves, and meriting at the most but the reproach of slightly prolonging and complicating the manipulations of the operator.

M. Verneuil makes use of these precautions in the three following circumstances:—

1. In operations involving only the nasal fossæ;
2. In those performed upon the walls of the mouth;
3. In those more grave mutilations which extend simultaneously to the nasal and buccal cavities.

In the first class of cases M. Verneuil plugs the posterior nares; in the second, the incisions which reach into the mouth are put off to the last; in the third, the two preceding precautions are combined. These methods have been applied by M. Verneuil in eleven operations, five on tumours of the alæ of the nose, four on tumours of the lips, and two cases where the superior maxilla and velum were diseased. Ten of these cases ended favourably, and M. Verneuil thinks that, notwithstanding the general benignity of severe mutilations of the face, these favourable results ought partly to be referred to the influence of his new proceedings, and he awaits with confidence the results of a more numerous series.

M. Verneuil gives the reports of the cases in which he performed preliminary plugging of the nasal fossæ, and finishes his paper with the following conclusions:—

1. Posterior plugging, reserved up to the present time only for serious nasal hæmorrhage, ought from henceforth to be reckoned among preliminary operations and proceedings of operative hæmostasis.
2. It renders marked service in sanguinary operations performed upon the nose, the interior of the nasal fossæ, the maxillary sinus, the superior parts of the upper jaw; in fact, whenever there is a tendency for the blood to pass to the back of the throat.
3. It generally prevents the passage of the blood in this direction so long as the palatine arch is left untouched; but even when it is necessary to open the buccal cavity by this way, posterior plugging should be performed in the first stage of the operation.
4. By suppressing the backward flow of blood and the reflux actions resulting from it, plugging affords to the surgeon great security, and allows him to proceed surely, slowly, and without paying much regard to a hæmorrhage which can always be readily controlled.
5. By it complete anæsthesia is rendered possible during the whole time of the operation, however prolonged this may be.
6. This anæsthesia itself is very favourable to the patient, because it not only abolishes pain, but also suppresses all the causes of temporary congestion of the face, and consequently lessens the flow of blood to the surface of the wound.
7. The plugging should, if possible, be done before the administration of chloroform, as the concurrence of the patient is serviceable. The pain caused by this minor manœuvre is usually very moderate, and is soon removed by the subsequent inhalations.
8. The surgeon ought, before and during the operation, to assure himself of the complete closing of the back of the nares, if he wishes to obtain all the benefits of plugging. Directly the disease has been extirpated, and as soon as the wound ceases to bleed, the plug should be removed, its presence after the return of consciousness is of no great advantage and disturbs the patient.

9. If the septum be perforated, or if the operation must affect both nasal fossæ, it will be necessary to perform double plugging.

10. The posterior nares may be stopped up through the anterior opening if the alæ of the nose be destroyed, and the surgeon is about to perform a rhinoplastic operation.

Art. 173.—*Wounds of the Internal Jugular Vein.*

By S. W. Gross, M.D.

(*American Journal of Medical Sciences.*)

Dr. Gross arrives at the following conclusions from the study of eighty-five recorded cases. 1. incised and punctured wounds of the internal jugular vein are to be classed among the most fatal of accidents; and, if subjected to no treatment, are invariably mortal from primary hæmorrhage, the introduction of air, pyæmia, or secondary hæmorrhage. 2. Gunshot wounds of the vein alone are always fatal from primary or secondary hæmorrhage, or pyæmia. 3. When the carotid artery is opened at the same time, either as a result of gunshot, incised or punctured wound, the case may, under favourable circumstances, recover, but with the formation of an arterio-venous aneurism. 4. Compression is followed by a fatal result as often as ligation; is more painful and inconvenient, and is to be resorted to in those cases only in which a thread is inapplicable from the high situation of the wound, or when the vein is merely punctured, and the measure can be applied immediately. 5. Ligation is more convenient, as it produces neither pain nor a suppurating cavity; and the fears of exciting diffused phlebitis are utterly groundless, as there is not a single example showing that such an inflammation has followed its employment. The ligature is, moreover, called for to guard against the introduction of air, and prevent its further ingress, as well as to prevent the occurrence of diffused phlebitis. 6. The lateral ligature is to be avoided, as it has been the cause of all the fatal results from secondary hæmorrhage; and both ends of the wounded or divided vessels are to be tied, since reflux hæmorrhage is not an infrequent occurrence. 7. Ligature of the common carotid artery will not restrain the flow of blood from a wounded internal jugular vein, and is, therefore, to be rejected as a hæmostatic measure. 8. Not only has the danger of pyæmia after ligation of the vein been greatly exaggerated, but all the dangers are also hypothetical, as neither apoplexy, softening of the brain, nor other cerebral disorders have ensued from its employment, the collateral circulation being amply sufficient to prevent those accidents. 9. The cause of death after ligation is not to be looked for in the production of pyæmia, as the fatal issue has, in every instance, been due to secondary hæmorrhage, coming on about the time of the separation of the thread.

Art. 174.—*On Alveolar-Dental Osteo-Periostitis.*

By Dr. E. Magitot.

(*Archives Générales de Médecine*, July, 1867.)

Dr. Magitot concludes an article upon alveolar-dental periostitis with the following propositions:—

1. The affection commonly denominated *conjoined suppuration of the alveoli and gums* (Jourdain, M. Oudet), is characterized anatomically by an osteo-periostitis of the dental cement and periosteum.

2. The malady comes on either without any appreciable cause and is then purely local, or more commonly under the influence of certain general conditions which have been specified in the memoir.

(The general conditions are: Scurvy, the eruptive fevers, the rheumatic and gouty diatheses, anæmia, and, above all, diabetes and Bright's disease of the kidneys.)

3. Alveolo-dental osteo-periostitis, though generally considered as incurable, is not, according to Dr. Magitot, beyond the resources of surgery.

4. The only mode of treatment that has given satisfactory results to Dr. Magitot, consists in the regular and periodical application of pure chromic acid, to which applications he adds as necessary remedies, astringent washes, chlorate of potash, and intestinal and cutaneous revulsives.

Art. 175.—*Case in which a Penny Coin impacted in the Throat of a Child was Discovered and Removed by the aid of the Laryngoscope.*

By George Johnson, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College.

(*British Medical Journal*, July 6, 1867.)

The following interesting case is related by Dr. Johnson:—

"F. C. W., a fine healthy boy, aged a year and eight months, was brought to me on the 2nd May by his parents, who told me that, two days before, he had swallowed a copper penny. When the child was taken to his mother by a servant immediately after the accident, he was black in the face; his eyeballs apparently starting out; and he seemed to be in imminent danger of suffocation. These alarming symptoms soon subsided, and when the medical attendant arrived, he supposed that the coin had passed into the stomach.

"When the child was brought to me, about fifty-two hours after the accident, I ascertained that since the coin had disappeared he had been quite unable to swallow solids, while the swallowing of liquids was attended with difficulty, and often excited coughing. Some water that I gave him to drink made him cough. There appeared to be much

irritation about the throat, and there was a frequent discharge of salivary mucus from the mouth; this discharge was occasionally tinged with blood. Respiration was attended with a moist rattling noise in the throat. There were frequent fits of coughing, which almost entirely prevented sleep; the child looked weary and anxious, and the distressing symptoms had gone on steadily increasing. With such a history, it could scarcely be doubted that the coin was impacted in the throat. Up to that time, the only treatment had been the administration of a dose of castor-oil.

"Using a piece of soft wood to keep the mouth open, I endeavoured to reach the coin with my finger; but I failed to do so. Then, while keeping the mouth open by the wooden gag between the teeth, I introduced a small laryngéal mirror. At first I found that the surface of the mirror became instantly smeared over and dimmed by the profuse mucus secretion from the throat, so that I could see nothing. I next swept the mucus out of the throat by a brush on a bent whalebone; then quickly introducing the mirror, I saw the coin sticking in the upper part of the œsophagus, the surfaces front and back, and the upper margin just below the opening of the larynx.

"I then took a pair of long, slender, curved forceps, opening front and back, which I had purchased from Messrs. Weiss a short time before, and guiding the forceps by the throat-mirror which I held in my left hand, I seized the edge of the penny and brought it out.

"Immediately after the removal of the coin, the child retched and coughed violently for a few seconds. I then gave him some milk and water; and it was pleasent to see the eagerness and the ease with which he drank it. From that time all symptoms of irritation rapidly subsided; but it was not until the third day after the removal of the penny, that he could be induced to swallow solids. When I saw him again, a week after his first visit to me, he had lost all his discomforts, and he looked a model of health and happiness. It is probable that the alarming symptoms of suffocation, which occurred immediately after the coin got into the throat, resulted from the partial closure of the larynx while the foreign body was sliding over the epiglottis on its way to the gullet. That the continued impaction of the coin in the gullet would have been speedily fatal by the extension of inflammation and swelling to the larynx, scarcely admits of a doubt."

Art. 176.—*Use of the Spray-Producer in Syphilitic Ulceration of the Throat.*

Under the care of Dr. Murchison.

(*The Lancet*, October 19, 1867.)

By means of this little instrument, a fine spray of sulphurous acid was showered over the tonsils and palate of a man who was suffering much distress from syphilitic ulceration of the throat. The improvement which took place was very rapid. The smell and bad taste which had

been a great source of annoyance ceased immediately, and the unhealthy aspect of the sores gave place quickly to signs of healing. The man expressed himself very strongly as to the marked relief which the sulphurous acid, thus administered, had given him, and on looking into his mouth, some days after the application, we found the throat all but healed. The spray, he told us in reply to a question, produced no smarting.

The patient is a terrible example of constitutional syphilis. Three years ago, having previously always been a strong and perfectly healthy man, he contracted a chancre. He placed himself under the treatment of a medical man, who gave him a great many pills, which had the effect of salivating him so profusely that he lost several teeth. Whilst still salivated, he says that eruptions came out about his arms and legs, and his throat began to get sore, and has been ulcerated at intervals ever since. Eight months ago certain of his bones began to enlarge, and now he presents, amongst other signs, great swelling of both insteps, and especially of that of the right foot, where also there is a large ulcer. His aspect is very cachectic. He says that his father and mother suffered very much from rheumatism.

Art. 177.—*An Hypertrophied Cervical Gland treated by Injections of Iodine.*

By C. H. Marston, M.D., L.R.C.P.Ed., M.R.C.S.E.

(*Medical Times and Gazette*, July 27, 1867.)

The following case may prove interesting as illustrating a new mode of treatment in a somewhat peculiar case, and as suggestive of a similar treatment in some cases which all surgeons at times find troublesome and obstinate.

Miss N., a lady about thirty-five years of age, consulted Dr. Marston in January last in reference to an hypertrophied cervical gland, which, from its situation and peculiar condition, had become very disagreeable to her. The mass in form and size closely resembled a large walnut, was rather hard, somewhat lobulated, and apparently infiltrated with plastic matter. The patient was put under the influence of cod-liver oil and iodide of iron, with external applications of iodine to the tumour, under which treatment the general health greatly improved, while, however, no effect was produced upon the local affection, which, from the disfigurement it produced, was a source of no small annoyance. Anxious though she naturally was to be freed from it, she yet had so great an aversion to the use of the knife that she was very unwilling to have it excised. Dr. Marston therefore determined to try the effect of injections of iodine into the substance of the gland, and for this purpose used an ordinary hypodermic syringe, filled with the compound tincture of iodine. No pain whatever was caused by the operation, nor did any inflammatory action follow. Seen again a week afterwards, the tumour was found to have decreased to almost half its original size. The injection was repeated, and in the course of another fortnight it had

diminished to the size of a small bean, while the new skin was fast filling up the opening. A third injection was made, followed in the course of a few days by the complete disappearance of the growth and the perfect healing of the wound, leaving an almost imperceptible scar. No symptoms of iodism occurred during or after the treatment.

Art. 178.—*Ulcerated Scirrhus of the Parotid and Submaxillary Glands: successful Removal of the whole Growth.*

By Prof. Otto Weber.

(*Deutsche Klinik*, No. 27, 1867.)

Stephanie Laner, forty-two years of age, from Buhl, near Baden-Baden, had always menstruated regularly, and had given birth to four children. In consequence of a fall twenty-four years ago, she lost for some time her hearing on the right side, and observed later a small swelling, which commenced to increase in size two years ago, and after having reached the size of a hen's egg was removed by Dr. Battlehuer. The operation was performed successfully, and the wound healed in a few weeks. Soon after this, however, another tumour appeared behind the angle of the lower jaw, which during the winter of 1865 frequently increased in size, especially after attacks of catarrh, but after a short time diminished again, but did not disappear. Last year the tumour increased constantly in size, and became firmer and firmer. A medical man applied to it for some time lunar caustic, until by this means an ulcer was produced of the size of a florin, which did not heal. In the summer of 1866 stabbing and darting pains came on, the movements of the jaw were impeded, and the patient, who had no doubt concerning the gravity of the tumour, anxiously wished for its removal. No one, however, would undertake the operation. On November 6th she was admitted into Professor Weber's clinic at Heidelberg. The tumour had reached the size of a large fist, and extended from the masseter to beyond the mastoid process, and from the malar bone to the top of the cricoid cartilage. Its central part extended deeply below, and was ulcerated on its superficial surface. The edges were uneven and extremely hard; the growth was closely adherent to the integument, which was traversed by a great number of small blood-vessels. The general health of the patient was good.

The operation, performed on November 10th, was not attended with any difficulty, except in the adhesion of the skin, a large oval piece of which had to be removed, and in the firm and extensive connexions of the tumour with neighbouring parts. It was necessary to remove a part of the sterno-mastoid muscle, and also of the massiter, and as the tumour extended forwards and involved the submaxillary gland the whole of this was extirpated, although its anterior parts presented no signs of induration. A few degenerated lymphatic glands were also removed. The superior portions of the muscles springing from the styloid process were also removed, and the tumour extended by its

posterior portion so deeply that the transverse process of the atlas was freely exposed to sight. Twelve arteries were tied; the facial nerve was of course cut through; the hypo-glossal remained cut; the vagus was not exposed.

The surgical fever reached its height at the fourth day after the operation (temperature 39·3° C.), and had by the 19th of November quite ceased. On the 21st the last ligature was removed. Granulation was active, and the healing process went on uninterruptedly up to December 6th, when after two attacks of rigors a croupous condition of the wound was presented. This was treated by the local application of turpentine, and disappeared, but was followed by erysipelas of the face. This came on December 9th, when the temperature was raised to 40·6° C. It commenced to die away on the 15th, but on the 17th there was another exacerbation. On the 20th it altogether disappeared. After this the healing processes were rapidly perfected, and on the 10th of January, 1867, the patient was able to be discharged, with the wound completely closed. Since then the patient has gone on favourably. The disfigurement from facial paralysis was scarcely perceptible.

Art. 179.—*Fractured Jaw: profuse Hæmorrhage stopped by Digital Compression.*

Under the care of Mr. Maunder.

(*The Lancet,* October 12, 1867.)

W. C——, aged twenty-six, sustained a fracture of the lower jaw, opposite its left angle, by a blow with the fist. The accident happened on September 10th, and on the following morning the patient came to the London Hospital, bleeding freely from the mouth. The means employed by the house-surgeon were of little avail, and on Mr. Maunder's arrival, the bleeding continuing, the patient was sent to the operating theatre in case severe measures might be necessary to arrest the hæmorrhage. On examination the blood was seen to rush into the mouth through a fissure in the gum behind the last molar tooth, and the bleeding was at once controlled by compression of the left common carotid artery without discomfort to the patient. At one moment the ligature of the carotid artery seemed inevitable; but, compression being easily borne by the patient, some of the students responded to Mr. Maunder's call for aid (Messrs. Ceeley, Putsey, Barrett, Clouting, Ilott, and Vialls), and maintained compression for two hours and a half, with the effect of arresting the bleeding. The patient was kept in his clothes in one position on a sofa for twenty hours, and then sent to his ward. He progressed perfectly satisfactorily, and was made an out-patient on September 27th.

Art. 180.—*Fracture of the Sixth and Seventh Cervical Vertebræ. Death in Three Days.*

Under the care of Mr. Holmes Coote.

(*British Medical Journal*, July 6, 1867.)

The following case bears on an important question, which has of late given rise to considerable discussion; namely, the advisability of trephining the spine after an injury. In this case, as will be seen from the *post-mortem* lesions found, trephining would not have saved the patient; and, indeed, the symptoms during life were not such as pointed to irritation of or pressure on the spinal cord, the only motives for performing the operation. In a remarkable lecture delivered by Dr. Brown-Séquard before the College of Physicians of Ireland, in February, 1865, that eminent physiologist and physician contrasts the chief symptoms which occur in cases of fracture of the spine in the cervical region, according as the cord is, or not, irritated and pressed upon. Trephining is, according to him, called for when the cord is irritated or pressed upon. In such cases, the patient's condition is one allied to syncope: he is almost pulseless, extremely cold, and covered with a clammy perspiration. He appears almost like a dead man. There is no contraction of the muscles; the limbs hang loose and dead; his breathing is almost gone; his pulse not only very faint, but extremely slow—from 40 to 45 in a minute. If the patient be bled, red arterial blood flows from his veins with an impulse.

On the other hand, trephining is useless when the symptoms point to a division or complete disorganization of the spinal cord. The phenomena then observed are indicative of asphyxia. The limbs are stiff and rigid; the pulse high; the body hot; and, if the patient be bled, the blood is darker than venous blood usually is, and flows without an impulse.

George Pinnock, aged forty-four, was admitted June 21st, suffering from a severe injury to the spine, from falling a height of ten feet on his neck and shoulders. There was great tenderness over the spines of the sixth and seventh cervical vertebræ; but no irregularity in their outline was detected. There was complete loss of sensibility and power of motion in all parts of the body below the level of the second rib, and imperfect power of movement in the upper extremities. Respiration was difficult and abdominal; pulse 70. There was priapism; and he complained of great pain in the region of the sixth and seventh cervical vertebræ.

He remained in about the same condition for two days; and on the third day the breathing became much more difficult, his face occasionally livid; and he died on the night of the 23rd. There was retention of urine, and no action of the bowels during the whole period.

Autopsy.—Preternatural movement existed between the sixth and seventh cervical vertebræ. There was some effusion of blood in the soft parts around this portion of the spine. The bodies of these vertebræ were separated. There was a fracture through the upper part

of the body of the seventh; and the arch of this vertebræ was separated from the body. The transverse process of the sixth was also fractured. There was very little displacement; no laceration; and apparently no pressure upon the spinal cord. Its structure, however, opposite the fractures, was softened. There was some effusion in the spinal canal below, but none above, the seat of injury.

Art. 181.—*On the Indications for and against the Application of the Trephine in Traumatic Lesions of the Cranium.*

By Dr. Léon le Fort.

(*Gazette Hebdomadaire*, No. 26, 1867.)

Dr. Léon le Fort believes that trepanning is, under certain conditions, an excellent operation, which merits an honourable position in the practice of surgery. The following is a brief *résumé* of his views concerning the indications for and against the use of the trephine:—

There are three orders of phenomena which influence the pathology of injuries and wounds of the head, and the therapeutical indications of these accidents in relation to the operation of trepanning—coma, convulsions, hemiplegia.

In coma, the rule is to wait.

In convulsions, the operation ought never, or very seldom, to be performed.

In hemiplegia, whether simple or complicated with partial convulsions, early intervention is always, or nearly always, indicated.

When bad symptoms come on late, it is necessary to intervene, when, in addition to central hemiplegia, signs of fracture and exposure of the cranium are present; if after the use of the trephine no effusion be discovered, the bistoury should be passed into the external layers of the cerebrum, which may be supposed to be the seat of an abscess.

In all cases where doubt exists it is necessary to act.

Art. 182.—*Local Anæsthesia in Otalgia.*

By Charles C. Shoyer, M.D.

(*American Journal of the Medical Sciences*, October, 1867.)

Dr. Shoyer has found the following means effectual in promptly relieving the pain in earache. He draws into the smallest sized rubber syringe about half a drachm of chloroform, and slightly elevating the nozzle to prevent slipping, introduces it into the ear. The effect, he says, is magical, stopping the pain almost immediately.

Art. 183.—*Rodent Cancer.*

By Charles H. Moore, F.R.C.S.

(*Rodent Cancer, its Nature and Treatment.*)

The rodent disease, at its commencement, Mr. Moore says, may undoubtedly be extirpated, but in its later stages exemption from recurrence after apparently complete removal, is less absolute than the usual success of operations would lead us to suppose. For the cicatrix may reopen, and without throwing up the distinct, separate, hard margin which characterizes the ulcer in cutaneous texture, may ulcerate again widely. Should this fresh ulceration, however, arrive at skin again, the peculiar solid marginal rampart is reformed. Seemingly healthy parts around the scar may likewise become diseased anew, and that event, as in what is called true cancer, may be delayed until some time after the supposed cure. Usually, no doubt, recurrence takes place in or near the scar; the rodent disease resembling cancer in this also, that it shows most intensity at its original site.

In most cases the disease commences during the decline of life. It rarely arises before fifty years of age, though in one instance which came under Mr. Moore's care the growth first appeared as early as at thirty-three years of age. General healthiness, as a rule, has been the prevailing condition of the persons in whom this disease comes on.

(B) CONCERNING THE TRUNK.

Art. 184.—*On the Importance of Rest in Severe Abdominal Injuries.*

By J. R. Greenway.

(*Medical Times and Gazette*, July 6, 1867.)

Mr. Greenway has selected the following case from among others as not unworthy evidence of the value of that principle so ably enunciated by Professor Hilton in the course of lectures he published some time ago, "On Pain and the Therapeutic Influence of Mechanical and Physiological Rest in Accidents and Surgical Diseases."

"Henry W., aged eleven years, while playing with other boys, was dared by his playmates to climb over a fence; in attempting to do so, he placed a stick (29 inches long and more than half an inch in diameter) in a position slanting from the side of the fence into the ground, and placing one foot upon a few bricks, and the edge of the other foot upon the upper end of the stick, and taking hold of the fence, the boy managed to raise himself so as to place his arms and chest on the top of it. His playmates then endeavoured to thwart his progress by pulling his clothes and the stick, which disturbed the boy's balance, and he eventually fell; in doing so, he came in contact with the upper end of

the stick, which had been displaced, and was evidently in some upright position. It tore the trousers, and pierced the abdomen through the external abdominal ring. At the time of my seeing the boy there was a good deal of blood on his clothes; he was very faint and pale, and vomited during my attendance. The stick had been withdrawn by his father, and was shown to me; about four inches of the end withdrawn was covered with blood, and at the apex presented the appearance of irregular fracture. The wound was ragged, and freely admitted my forefinger to the second joint; the intestines were distinctly felt protruding into the wound from within. There was no further evidence of a decided character as to more extensive internal injury of the peritoneum or intestines; neither could I at first positively say that no bloodvessel had been lacerated that it was important to ligature. I could not detect any foreign substances in the wound, though small portions of the boy's clothes were missing. The hæmorrhage abated, and, suspicious that some of the missing pieces of clothing might be lodged within the abdominal parietes, I simply plugged the wound with fine lint, previously wet with water, and ordered external water dressings, to be changed frequently, and milk diet; the supine position was enjoined, and perfect rest secured so far as was practicable, the urine being drawn off by a catheter for a few days. The patient suffered much from pain and vomiting at times; to relieve these symptoms, a mild opiate with chloric ether was prescribed. On the third day feverish symptoms were troublesome, but evidently attendant on a constitutional state which would have been much aggravated by depletory or depressant measures; these by degrees abated as more liberal food —eggs, &c.—could be taken and retained. On the fourth day the bowels acted naturally. There was excessive purulent discharge from the wound, which circumstance induced me to again explore the wound for any foreign substance that might be acting as an irritant therein, and this time I extracted a piece of the boy's shirt $1\frac{1}{2}$ inch long, in which was embedded a splinter of wood. The wound was dressed daily as before, weak nitric acid lotion being substituted for water; the purulent discharge soon diminished; the wound granulated kindly; the dressing required, which I have spoken of as plugging the wound, was gradually less, and in a short time the parts healed up completely, and the patient returned to the enjoyment of boyish sports with undiminished activity and zeal."

ART. 185.—*Multiple Fractures of the Bones of the Pelvis, with Dislocation of the Sacrum upon the left Ilium, and Laceration of the Urethral Canal in an Infant ten years of age.*

By M. MARJOLIN, Hôpital St. Eugénie, Paris.

(*Gazette des Hôpitaux*, No. 80, 1867.)

The subject of this report was one of those unhappy little Italians who are taken to Paris by persons not their parents, who allow them to

wander about the whole day long. This child, with two of his companions, mounted behind a truck heavily laden; he fell, and one of the wheels passed over his body. When brought to the hospital shortly afterwards he was found by M. Marjolin in the following condition:—Face very pale, and expressive of great agony, extremities cold, pulse scarcely perceptible. He was perfectly sensible; the surgeon first endeavoured to restore heat of body and to reanimate the patient by administering some cold water with sugar and rum.

It seemed probable from the diagonal direction of the wounds, which commenced at the right leg and terminated at the left, that the vehicle had passed obliquely over the body.

The whole of the inner portion of the right leg was involved in a large contused wound; the bones, however, were not fractured. At the fold of the groin, and at the upper and inner part of the left thigh, there was another contused wound. The perineum was equally contused, and presented a fluctuating tumour. A catheter could not be passed into the bladder. As the child was tormented by an incessant desire to pass his urine, M. Marjolin made a puncture with a lancet into the most prominent part of the perineal swelling in the median line; a considerable quantity of blood flowed away, and the patient was somewhat relieved, but this alleviation of his sufferings lasted but for a short time, as he expired a few minutes after.

Although no mobility of the bones of the pelvis had been made out during life, M. Marjolin thought, considering the cause of the accident, that there must have been a fracture of the pelvis with laceration of the urethra, and very probably internal hæmorrhage. The autopsy verified his opinion.

On both sides, the horizontal and descending branches of the pubis were fractured, the symphysis pubis was ruptured; finally, behind, there had been a laceration of the left sacro-iliac symphysis, and the sacrum had been carried forwards, and presented an example of luxation of this bone upon the left ilium. The urethra was torn, and a considerable quantity of blood was poured out into the pelvis and perineum. Several fissures were presented at different parts of the left iliac bone.

Art. 186.—*Sore Nipples.*

(*The Lancet*, September 2nd, 1867.)

Dr. Blacquieres says, in the *Journal des Connaissances Médicales*, that three or four applications of the following compound cure this complaint:—Cocoa butter, 150 grains; extract of rhatany, ten grains.

Art. 187.—*Umbilical Hernia.*

(*The Lancet*, July 6, 1867.)

M. Demarquay, of Paris, had failed twice in strangulated umbilical hernia of large size, by making a very small incision in the constricting

ring. He resolved, in a third case, where the intestinal mass was voluminous, to open the sac just enough to pass the finger. Upon the latter, he incised the ring to the extent of half an inch, and made no attempt at reduction. The protruded mass gradually collapsed, the bowels acted (by means of small and repeated doses of opium), and the herniated tumour, which at the time of the operation was the size of two fists, became at last reduced to the size of a hen's egg.

ART. 188.—*Considerations suggested by the study of One Hundred Cases of Stone in the Bladder of the Adult, recently Operated on.**

By Sir HENRY THOMPSON.

(*British Medical Journal*, August 10, 1867.)

The author said that these cases were not selected, but were simply those which had occurred in his practice during the last three years and a half. Not a single case which had applied was refused operation, that, in the worst cases, being the only chance of life. They were all adults; the children's cases being omitted. The following facts were noted:—Of the 100 cases, 84, or about four-fifths of the total number, were operated on by lithotrity, and 16 for lithotomy. The mean age of the lithotrity cases was sixty-two years and a half. Among them were no less than 21 cases of seventy years and upwards, 2 being upwards of eighty years of age. Among these 84 cases there were only four fatal cases. The lithotomy cases, 16 in number, had a mean age of sixty-three years and a half. The youngest was forty-two, the oldest was eighty years; six were above seventy years of age, including one each of seventy-seven, seventy-eight, and eighty years. Six cases were fatal. Of the entire 100 cases of operation upon unselected patients, having a mean age of sixty-two years and two-thirds, and submitted to either lithotrity or lithotomy, there were 90 recoveries and 10 deaths. These cases must be considered as less promising cases than the product of any given district. Four propositions were deduced from the facts stated:—

1. That lithotrity is the most successful operation for at least four-fifths of all cases of stone in the adult which come under the surgeon's notice at the present time; a statement which is more definitely expressed in the fact that the rate of mortality for such cases in this series is barely five per cent.

2. That lithotrity can be thus successful only when it is performed on a definite system, in accordance with certain practical rules which experience has determined, and which can be laid down.

3. That cases of calculus in which one of the two operations, lithotrity or lithotomy, ought not to be performed are excessively rare.

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* Abstract of a paper read at the thirty-fifth annual meeting of the British Medical Association held in Dublin, August 6th, 7th, 8th, and 9th.

4. That by exercising an ordinary degree of vigilance for adult patients suffering from symptoms of urinary disorder, every case of calculus may be discovered in an early stage, may be succeessfully treated by lithotrity, and consequently that the operation of cutting for stone may be rendered obsolete, or applicable only for some very exceptional example which has been developed as the result of extreme neglect or ignorance.

Art. 189.—*Median Lithotomy: no Incontinence of Urine: Recovery.*

Under the care of Mr. Maunder.

(*Medical Times and Gazette*, September 28, 1867.)

Charles O., three years of age, had shown symptoms of stone during nine months. On September 21st, 1866, median lithotomy was performed, and a calculus the size of a nut extracted. From the moment of the operation, the whole of the urine passed by the natural channel. There was no incontinence of urine whatever. Mr. Maunder is in the habit of performing both the lateral and the median operation—the lateral when either the stone or the prostate or both are large, that he may have plenty of room for extraction; the median when opposite conditions exist. There is one fact connected with the median operation which induces him to prefer that method—the possibility that his patient may have no incontinence of urine, but a dry and wholesome bed throughout the period necessary to convalescence. Mr. Maunder thinks this not infrequent immunity from incontinence should have more weight than it probably has with surgeons when selecting a method of operation.

Art. 190.—*A few Remarks on the Safety of the Median Operation for the Removal of Stone from the Bladder, the Section being limited to the Membranous Urethra, with simple Dilatation of the Prostate Gland.*

By W. L. Crowther, M.R.C.S.E., Surgeon to the General Hospital, Hobart Town.

(*The Lancet*, August 3, 1867.)

In this paper Mr. Crowther enumerates the following advantages the median operation presents beyond all others:—Freedom from hæmorrhage, particularly in aged subjects, the incision being confined to *aponeurotic* structures; the slight disturbance the parts undergo: the ease and certainty with which the bladder can be reached; and, most important of all, when the *prostate is dilated*,

not incised, the control the patient possesses over the functions of the bladder from a few hours after the operation.

Mr. Crowther says, should any of his surgical friends still retain an attachment to, or affection for, the lateral section of the prostate, he urges upon them to lay aside the knife as soon as the staff is fairly exposed in the membranous urethra, and finish the operation in the manner below indicated, recollecting a truism, which cannot be too often repeated, that in many surgical operations, and lithotomy in particular, the finger as a dilator *can do no harm.* That dilatation both of the wound and prostate is necessary, there can be no doubt; and excellent advice is given by Allarton and others on this point. The operation described by Wood, of King's College, in 1861, is in principle the same as his own, but essentially different as to the means employed to effect dilatation. No instrument is equal to the finger, the vital and special endowment of which—*touch*—alone will always constitute it superior to all mechanical contrivances, be they ever so well devised. Acting under intelligence, it can move with freedom and precision in all directions, and possesses a function—*prehension*—the value of which can only be estimated by those who have been frequently called upon to operate.

In a case recently operated upon, Mr. Crowther used a rectangular staff, the peculiar advantages of which consist in leaving the space between the rectum and the urethra less occupied, cutting the urethra on a straight plane, and the angle, being well marked, can easily be felt, if required, in the perineum.

The operation practised by him for some years is performed as follows: —The patient having been placed under the influence of chloroform, a staff is introduced, and held firmly against the pubes by an assistant, not made to bulge or press down upon the perineum; the index finger of the left hand is then passed into the rectum, and made to press firmly upon the prostate about its anterior third. A long-bladed scalpel, with the back downwards, is then thrust through the integuments half an inch in front of the anus, and carried steadily on until the staff is struck and the urethra opened a little anterior to the finger, the point being allowed to cut slightly upwards. The knife is then gradually withdrawn, but made to cut upwards and outwards to the extent the operator may think the size of the stone will demand or his convenience require; the back of the finger during this part of the operation being made to press downwards, and render tense the parts. The finger is then withdrawn, and the opening in the staff sought for, any intervening structures being divided by a few touches with the knife, and the *membranous urethra* fully laid open. A ball probe, as recommended by Allarton, is then introduced into the bladder, and the staff removed. The finger, having been oiled and being guided by the probe, is then gently insinuated into the prostatic urethra, slight rotary force being gradually employed until the first and part of the second joints are within the bladder, and the stone felt. According to the size of the calculus will dilatation be necessary, and to effect this movements of the finger will be needed in various directions, but the greatest amount of force must take place from above downwards, the *prehensile* power of the finger at the same time being brought into play for the

purpose of drawing the prostate slightly forwards. Attention to this point is important, as the force necessary to dilate to the extent required, if exerted in one direction only, might push—especially in young subjects—the bladder before the finger, and render difficult that which otherwise would be accomplished with ease. The dilatation completed (the finger moving freely through the wound and prostate), the stone is seized in the most convenient axis, and extracted by firm and steady traction, the stone and forceps, if the former be large, putting the parts fully on the stretch; and should a little yielding of structure take place nothing need be feared, as it will be in a direction at a distance from, and external to, the neck of the bladder and the reflection of the pelvic fascia. After the extraction of the stone, Mr. Crowther always inserts through the wound, and orders to be retained in the bladder for eighteen or twenty hours, a straight elastic tube, the flow of urine through which lessens the scalding usually felt by the passage of that fluid over the wound; and, should the bowels need it, at the expiration of twenty-four hours, the administration of a soap-and-water enema, which invariably adds to the comfort of, and proves of the greatest benefit to, the patient. The early use of the warm hip-bath possesses advantages that cannot be over-estimated. No other treatment will be required. Before operating the bowels ought to be relieved by an enema.

Mr. Crowther concludes his paper by giving the last two cases operated upon, in illustration of the benefits derivable from *non-section of the prostate gland*.

N ——, aged sixty-one, of robust build and deep perineum, was operated upon by me, on the 23rd of February last, by the "median section," the incision being limited to the membranous urethra. Weight of stone, 12 drachms; size, 2 in. × 2 × ½ in.

26th.—Urine passing freely by the urethra. Has *full control* over the functions of the bladder, having risen from his bed at intervals of four hours to empty that organ.

March 1st.—Wound much contracted, and *not admitting the passage* of any urine.

10th.—Urine natural; wound closed.

22nd.—Left the hospital well.

In this case there was a very smart *venous* hæmorrhage both during the operation and for some time afterwards, and which materially reduced the patient's strength. Had this man been cut according to the old system, the venous plexuses being so large, I have every reason to believe death would have speedily followed.

W——, aged fifty-five, a farmer, stoutly made, and, as in the previous case, the perineum was remarkably deep, was cut by the median section on the 5th of April, 1866, at one p.m.

April 6th.—The reaction has been very slight. Slept the greater part of the night. Flow of urine copious.

7th.—Has risen from his bed three times during the night, at intervals of four hours. No urine has passed by the wound since five p.m. yesterday. States that he is quite well.

8th.—Has only required to empty the bladder twice in the last twelve hours. Wound contracted to a mere line, and free from soreness.

9th.—Slept well. It has not been necessary to leave his bed more than three times during the last eighteen hours. No escape of urine by the wound.

11th.—Was up for several hours during the day, and persists that he is quite well.

12th.—He has taken exercise in the open air for an hour this morning.

17th.—Returned home, a distance of thirty-five miles.

Three lithic acid calculi were removed, measuring one inch, three-quarters, and half an inch respectively.

In this case the loss of blood did not exceed two ounces, and no urine passed, *excepting at the will of the patient*, after the thirtieth hour, from which time he had as perfect control over the functions of the bladder as when in health.

Each operation was completed and the patient in bed within fifteen minutes after the system had been brought under the influence of chloroform.

For the last twenty years Mr. Crowther says he has not incised the prostate, he attributes the rapid recovery in each case, and in all ages, to this circumstance.

Art. 191.—*Starch Injections in Gonorrhœa.*

(*The Lancet*, Sept. 21, 1867.)

Bismuth has of late been largely employed with a view of obtaining a deposit of the powder into the follicles of the urethra. M. Luc, a military surgeon, proposes a cheaper injection of the same character—viz., finely-powdered starch mixed with lukewarm water, so as to obtain a fluid of the substance of cream, but thin enough to allow of injection. M. Luc has been very successful with this compound, either in painless discharges, or where the inflammatory stage was over.

Art. 192.—*Blistering the Groin for Gonorrhœa.*

(*Edinburgh Medical Journal*, No. 139.)

Dr. Henry Veale, R.A., states that the application of blisters to the groin, below Poupart's ligament, is a most speedy and effectual plan of cure. It was first suggested to him by Mr. Pack, of the Royal Artillery, and has been recommended by Dr. H. C. Miles. The blister should not be allowed to remain more than four hours. After its removal a poultice is applied, and the part is afterwards dressed in the ordinary way.

Art. 193.—*Oil of Sandal-wood in Gleet.*

Under the care of Mr. Berkeley Hill.

(*British Medical Journal*, July 6, 1867.)

Mr. Hill has tried the oil of sandal-wood in nineteen cases of urethral discharge of some weeks' or months' duration. Its efficacy, though

uncertain, is often very marked. In several cases it arrested the discharge by the third day; and, when taken for seven days, prevented any further return. Of the nineteen cases, the oil was of marked benefit in thirteen. In six no benefit resulted from its use; and in four of these, any dose, however small, produced nausea or disturbance of the stomach. In two of the six, the drug had no controlling effect even when taken in two-scruple doses twice daily.

Of the thirteen favourable cases, cubebs and copaiba had been employed previously in seven without any advantage. In three of the seven, the copaiba produced too much disturbance to be borne; so that from these it would seem that some stomachs tolerate oil of sandal-wood that cannot bear copaiba. In all the patients one injection, in some several, had been employed before the oil was prescribed.

In the nineteen cases the dose most often tolerated was fifteen drops, taken three times a day, with a little liquor potassæ, in peppermint water; but eight drops in two patients had the desired effect, while forty drops were taken by three patients at a dose without producing intolerance. In these cases all other treatment was laid aside while the oil was being given. The oil was generally taken a week before the patient was able to leave it off.

Mr. Hill has not employed oil of sandal-wood in the acute stage of gonorrhœa. In these cases he gives alkalis in frequent doses, with or without purges and anodynes, as required.

ART. 194.—*Old Stricture of the Urethra: Disease of the Bladder: Nephritic and Perinephritic Abscesses: Death: Autopsy.*

Under the care of Mr. ERICHSEN.

(*British Medical Journal*, August 3, 1867.)

The following case, for the notes of which we are indebted to Mr. Poore, House-Surgeon, University College Hospital, is a capital illustration of the danger of neglecting an old stricture, and of the complications which are sure to follow in the course of time, in the shape of disease of the bladder, dilatation of the ureters, and inflammation of the substance of the kidneys themselves.

Joseph C., a farrier, aged thirty-six, was first admitted into the hospital in the beginning of February, 1867, on account of an old and very tight stricture of the urethra, the consequence of gonorrhœa contracted eighteen years ago. The stricture was cured by means of Holt's dilator, and the patient discharged in the course of the same month. He continued to present himself at the hospital from time to time to have bougies passed, and one day complained of pain in one of his testicles which had swelled. Ultimately an abscess formed in it and burst.

On June 11th he was again admitted into the hospital, but this time under Dr. Jenner's care, because of pain in his loins, and of his passing urine "as thick as milk." He first felt the pain about three weeks

before admission, and stated that it was greatly aggravated by stooping or by pressure. Since its first appearance he had been often seized with fits of vomiting which occasionally left him for three or four days, but returned again.

After his admission, he passed a great quantity of urine, which was loaded with pus. There were no casts of tubes to be seen, and the urine was of the same quality throughout, not thicker at the beginning or towards the end of micturition. There was a distinct fulness on the left side of the back, extending from the tenth dorsal vertebra to the crest of the ilium, and from the middle line to a hand's breadth outside the spinal column. The patient complained of pain when the part was compressed. The fulness over the right kidney having become more prominent, Mr. Erichsen saw the patient, at Dr. Jenner's request; and, having diagnosed the fulness to be due to a perinephritic abscess, he made a deep incision at the most prominent part and let out a considerable quantity of pus. The patient was then transferred to the surgical wards. After his removal, the abscess continued to discharge freely. Large poultices were kept constantly applied over the whole right side. A drainage tube was also introduced in the abscess, to the depth of about three inches. The quantity of urine was greatly diminished, but it still contained a considerable amount of pus. The vomiting continued every day, chiefly in the morning, and no improvement was obtained in this regard in spite of all remedies. The patient gradually became weaker and weaker, and sank at last on July 3rd.

A *post-mortem* examination of the body was made on the following day. The bladder was found enormously distended, thickened, and fasciculated. Both ureters were enlarged and thickened. The left kidney was small and nodulated, and, on section, was found to contain a number of small abscesses, all of which communicated with the pelvis of the organ. The right kidney was rather large, of a pale colour, and also full of abscesses; and it had contracted adhesions to the right lobe of the liver. The perinephritic tissue was dense and adherent to the capsule, and in it an abscess had formed of the size of a teacup, and the upper and posterior part of which communicated with the opening which Mr. Erichsen had made in the loins. The other organs were healthy.

ART. 195.—*Lodgment of a Lead Pencil, upwards of Six Inches in Length, in the Bladder and Urethra: Successful Extraction through the Perineum.*

By the late THOMAS WALTER JONES, M.D., Physician to General Hospital, Montreal.

(*Canada Medical Journal*, April, 1867.)

The notes of the following cases were given by the late Dr. Jones of Jersey to Sir G. Duncan Gibb, who publishes them in the *Canada Medical Journal*:—

Of the various freaks to which the male urethra is subjected, the

following is perhaps as extraordinary an instance as any recorded, for it resulted in the lodgment of a wooden lead pencil over six inches long in the bladder, with a small portion of it projecting into the urethra. It was owing to this latter circumstance that extraction through the perineum proved comparatively an easy proceeding. Had it been wholly lodged in the bladder, its removal, as a firm, unbending body, would have offered probably considerable obstacles :—

Michael Creigh, a native of Ireland, aged forty-eight years, applied at the Montreal General Hospital, in December, 1862, for surgical assistance. He stated that he had a foreign body in his private parts, which caused him great pain. He was in a semi-flexed position, and said he could not straighten himself as the body was piercing the back of his bladder. He was immediately stripped of trousers, and placed on a table with knees bent up. On being interrogated, he said he had been a victim of self-pollution for many years, and that the ordinary manner of practising it had lost its effect upon him, and that he had taken to the introduction of a foreign body into the urethra in preference. He said he was a stevedore by occupation, and had always a large pencil with him, and this instrument was what he was in the habit of using. This pencil had slipt from his fingers, and had gone into the bladder, so that it was pressing against the back of the viscus, whilst the upper end was coming through under the scrotum. Upon examination a hard substance was found presenting itself as the patient had stated. The usual forceps was introduced to withdraw the pencil with the assistance of the finger in the rectum, but the head of the pencil being rounded, it always slipt off, and the neck of the bladder spasmodically contracted around it. It was impossible to move the body. The head of the pencil was besides partially enveloped in a fold of the urethra which prevented the perfect application of the instruments. I determined therefore to cut down upon the pencil, and extract it through the perineum.

The patient was placed in the position for lithotomy ; the head of the pencil presented itself nearly midway between the anus and scrotum. An incision was made through the raphé into the membranous part of the urethra, when the head was seized, with a little difficulty, by a pair of strong forceps, and the entire body extracted. It required some force to withdraw it. There was slight hæmorrhage from the transverse artery of the perineum, which required a ligature to control it. The after treatment was the same as for a case of lithotomy, and the patient left the hospital in a week, quite well, with a strong determination not to try any more "pencilling by the way."

The pencil was six and a quarter inches long, a quarter of an inch in diameter, and called in trade "No. 3 Rehback's Express Pencil."

Art. 196.—*The Interior of the Urethra viewed by a Magnesium Light.*

By E. Andrews, A.M., M.D., Prof. of Surgery in Chicago Medical College.

(*Canada Medical Journal*, April, 1867.)

"The invention of the endoscope simultaneously by a French and by a Dublin surgeon has opened a new field, both in the pathology and treatment of the urethra. The endoscope consists of a lamp, a perforated mirror, and an urethral tube. These, when combined, throw a condensed light into the urethra, and enable the surgeon to inspect every part of it. One of the important fruits of this instrument is, the discovery that the chronic inflammation remaining after certain cases of gonorrhœa is granular in its character, and is, in fact, the same disease as granular conjunctivitis, granular laryngitis, and granular inflammation of the cervix uteri.

"Some months ago I had an endoscope constructed after the Parisian plan, and used it with some degree of satisfaction; but there is often a deficiency of light in these instruments, rendering the view unsatisfactory, unless all parts are in perfect order. Seeking to overcome this evil, I one day procured some small magnesium wire, which, when held in the flame of a lamp, burns with a white light, whose brilliancy dazzles like the glare of the sun at noonday. Introducing the endoscope into the urethra of a patient, I caused a friend to insert the wire into the flame of the lamp. The result was to illuminate the urethra magnificently. The mucous membrane, with every little fold or patch of varied colour was as plainly in view as could possibly be desired. It could not have been seen any better had it been dissected and laid in the sunlight. By gradually withdrawing the tube, the whole of the canal may successively be seen as it collapses across the end of the tube. Seeing the perfection of this illumination, I have ordered a spring and some small wheel-work attached to the lamp, so that the wire may be made to advance into the flame without the help of an assistant. In this way, no doubt, the difficulty of the illumination will be fully overcome, and the urethra can be inspected almost as easily, and quite as perfectly, as the tongue."

Art. 197.—*A Case of Elephantiasis Arabum successfully operated on.*

By J. S. Thebaud, M.D., Surgeon to the Hospital of the Coloured Home, St. Vincent's Hospital, &c. Reported by Samuel Whitall, M.D., Resident Physician to the Coloured Home.

(*New York Medical Journal*, May, 1867.)

Many theories have been advanced in explanation of the cause of elephantiasis; some attributing it to obstruction of the veins, others to

inflammation and occlusion of the lymphatics, in consequence of which plastic material is thrown out and becomes organized.

The subject of the following history, Isaac Newton, aged twenty-two, a native of Georgia, was admitted to the Coloured Home Hospital, March 20th, 1866, a few days after his arrival from the South. In January, 1866, Professor Juriah Harriss, of Savannah, saw the patient, and reported his case in the *Journal of Medicine* of that city.* The report is concise and clear, and is illustrated by an accurate woodcut. "I have presented this case," says Prof. H., "more as a medical curiosity, than for any relation it may have to practical medicine." Previous to his present trouble the patient had enjoyed excellent health, with the exception of a few suppurating lymphatics, undoubtedly scrofulous, the cicatrices of which still remain. His father, mother, and sister are apparently free from constitutional taint.

About eight years ago, in endeavouring to vault a fence while running rapidly, he fell astride the upper rail, thereby contusing the scrotum, which remained swollen and painful for nearly two weeks after the accident. Nothing wrong was noticed after the subsidence of the pain and swelling for about three months. His attention was at this time again drawn to the scrotum by a "*misery*," which resembled very much a "headache or toothache." It was confined to the lower anterior portion of the scrotum, and, upon examination, he felt the skin in that situation considerably thicker than natural. From this point the thickening gradually extended up the anterior portion of the scrotum, involved the prepuce, and then increased rapidly in size, until the tumour reached nearly to the ankles.

For the first three years of the growth of the tumour, the pain, at all times considerable, was subject to frequent and intense exacerbations, especially during the early part of the night. At such times the agony would drive him almost frantic; the remedies taken to relieve him seemed to increase his suffering. After this period of three years, the pain gradually subsided. For the past year he has been free from it. At no time did it extend beyond the parts immediately affected.

When the tumour was about the size of his head he noticed a very peculiar movement of the left side. Three or four times a day the skin was drawn in slowly and gradually, like the movements of a dying snake, until a depression of considerable size was formed on the surface; the tumour would then, in a few moments, resume its usual appearance. This movement, evidently the contraction of the dartos, he never observed upon the right side. Six years ago the inguinal glands suppurated, the cicatrices of which remain.

On admission, the patient presents a robust appearance, with unusual muscular development; weight, minus the tumour, 159 pounds; appetite good, all the functions normal. For the past few years he has been almost constantly bedridden, in consequence of the great weight of the tumour; locomotion, though not impossible, is very fatiguing, and is performed with an awkward, waddling gait; he has never made use of artificial support; has employed his time repairing shoes.

As the huge mass rests upon the bed between his separated limbs,

* *Savannah Journal of Medicine*, January, 1866.

its circumference is as large as that of an ordinary wash-tub; in the erect posture the tumour reaches to within five inches of the floor.

The measurements, while the patient is standing, are as follows:—

From symphysis pubis to lower extremity .	28 inches.
Bilateral diameter, anteriorly	20 „
Circumference at widest portion.	48 „
„ lower portion	32 „

The mass is largest fourteen inches below the pubes, and tapers slightly towards the extremities.

The weight of the tumor is 63½ pounds, ascertained by placing the mass upon the scales and letting the patient *squat* over them without resting his body upon the scales.

The integument of the lower portion of the mass, to within twelve inches of the symphysis, is hard, dry, desquamating, nodular, and very thick. It is also totally void of sensation when pricked or cut. A slight scab from abrasion is seen on its left border. Upon the upper portion the skin is less diseased, though still hypertrophied and less sensitive than normal. On passing the hand gently over this region it feels as soft as down, and has a peculiar velvety appearance. The colour over the upper portion is light brown, and gradually deepens into black at the lower extremity. The hair follicles are considerably enlarged, forming a little pit around the base of each hair. Viewing the tumour posteriorly, the scrotum is found nearly normal, still retaining its corrugated appearance, with the raphé distinctly marked, until it descends a considerable distance upon the tumour, where it is finally lost. This condition confirms the patient's statement in regard to its first attacking the scrotum and then passing to the prepuce.

The patient can readily locate the situation of the penis by palpation, though it is impossible for the surgeon to feel it by such means. It is in the usual position; so also is the right testis, which can be readily felt. The left testicle is not discoverable, and is, in Dr. Thebaud's opinion, atrophied.

At the lower extremity of the mass, and a little anteriorly, is a fissure two inches in length, over which the hypertrophied skin arches, presenting a very fair *facsimile* of the nates. This fissure is the external orifice of the canal which leads through the prepuce to the meatus urinarius above. The bladder is under perfect control. During micturition, which is performed while standing over a vessel, the urine flows out of the canal in streams and large drops, like water through a colander. The distance from the external orifice to the meatus is eighteen inches, the glans penis being recognised by the resistance it offers to the passage of a bougie.

The sexual desire is perfect, and there are occasional erections and seminal emissions. The tumour is so plastic that it alters its shape according to position; when struck sharply it trembles like a mass of jelly, a faint wave can be seen passing from side to side. If the patient place his leg upon it, a deep depression is formed corresponding to the shape of the limb, and several minutes are required for it to resume its original appearance after the removal of the pressure.

The patient's breasts are considerably larger than normal, and have been so since early childhood.

Dr. Thebaud, the attending surgeon, after a careful examination, decided that the mass could be removed with the loss of the left testicle. The proposed operation met the unanimous approval of the consulting board, Drs. Buck, Parker, Markoe, and Bumstead, and of Dr. Van Buren, who was present by invitation.

On the day previous to that appointed for the operation, the patient was seized with a febrile movement, which was unabated at the time of the consultation. It was therefore decided to await the result.

The following morning the eruption of varioloid was seen upon the face. The disease ran a regular and favourable course. Thirteen days previous to the attack a patient suffering with varioloid was detained all night in Newton's ward. Newton was vaccinated the following morning (for the first time), the pustules maturing a few days before he was taken down. The tumour, even in the most diseased region, was sparsely covered with the eruption.

For several hours previous to the operation, the tumour was elevated by placing it upon a platform prepared for the purpose (the patient lying upon the operating-table). The platform was then hoisted by means of a rope thrown over a beam. The object in view was to reduce the quantity of blood contained in the tumour. This procedure—recommended by Mr. D. Ferrall—caused such an infiltration of serum at the base of the tumour as to materially complicate the operation. Dr. Thebaud believes that the amount of blood thereby saved is not sufficient to counterbalance the complication: he would not resort to such an expedient in similar cases.

After the patient was etherized, Dr. Bumstead, at the suggestion of Dr. T., introduced his hand into the canal of the prepuce, and with considerable difficulty, and to the amusement of those present, succeeded in making a "digital examination" of the glans penis and its surroundings, which he found to be healthy. The whole length of the forearm was required to reach the penis. Ether was administered by Dr. Lente, of Cold Spring, assisted by Dr. James B. Reynolds. Dr. L. used his new inhaler. The amount of ether used was somewhat less than a pound.

Dr. Thebaud began the operation at 3 p.m., assisted by Drs. Buck, Parker, Markoe, Bumstead, consulting surgeons of the hospital, and by his friends, Drs. Van Buren, Gouley, Voss, Peters, and Welsh.

A sound (extemporized from a stove-poker) was first passed through the canal of the prepuce to the corona glandis. The point of the sound being then elevated by depressing the handle, was cut for by a transverse concave incision (concavity looking downward) twelve inches in length. A vertical incision was then made an inch on each side of the penis and six inches from it, extending from a level with the symphysis to either extremity of the transverse incision. The flap thus formed was turned back and the penis dissected from its bed. A sound was then passed into the bladder by Dr. Buck. The testes were then sought for by incisions extending obliquely downward and outward from the upward extremity of the vertical incisions.

The right testis was readily found in nearly the normal situation, and was dissected from its bed; the left could not be discovered.

The patient was now brought to the edge of the table, and the tumour placed upon a support held by an assistant on each side. The base of the tumour was then transfixed from below upward, with a twelve-inch catlin. The knife was inserted about an inch anterior to the anus, the index finger of the left hand being introduced into the rectum to prevent wounding the urethra. Two lateral incisions were then made, meeting the vertical incisions in front, and the operation was completed. The arteries were tied as the operation was proceeded with, nearly one hundred ligatures being required.

The hæmorrhage, though profuse, did not seriously weaken the patient; once only his pulse grew feeble, but was restored by stimulating enemata.

He had also, previous to the operation, taken two ounces of whisky. After the hæmorrhage had ceased, the penis and testicle were returned to their position. The integument contracted to such a degree after the operation, that the central flap was found to be too narrow to surround the penis, though originally made twelve inches in width for this purpose. The extreme thickness of the skin (two inches) increased the difficulty, while the excessive œdema precluded the probability of primary adhesion. It was therefore deemed advisable not to attempt perfect coaptation, but to bring the parts nearly into position, and allow the wounds to heal by granulation. The lower border of the central flap was attached to the corona glandis, and the two lateral flaps approximated by a continuous suture.

The operation, not including dressing, occupied nearly an hour.

The weight of the tumour, after removal, was 51½ pounds. The integument, to the depth of two inches, including the subcutaneous connective tissue, was exceedingly tough, fibrous, white, and glistening. It was almost as firm as cartilage, so that the knives required constant sharpening. The blades were so blackened by the fluids as to remain permanently tarnished. The central mass was composed of yellowish transparent semi-fluid substance, resembling in appearance colloid cancer. The left testicle was found considerably below its natural situation, and in a state of atrophy, thus confirming the previous diagnosis. Microscopically examined, the tubuli seminiferi were found denuded of epithelium, and filled with granular and fatty matter. No spermatozoa were visible. Isolated epithelium cells and corpuscles were floating here and there in the fluid.

The outer and more dense portion of the tumour consisted mainly of white fibrous and yellow elastic tissue; connective tissue, though less abundant, was also found in the central mass, in addition to numerous oil-globules.

The following record of the after-treatment and of the condition of the patient is taken from the case-book of the hospital:—

"7 p.m. (day of operation).—Patient feels chilly, pulse 106. Has vomited once, and has had two passages from the bowels since operation. Still labours under the effects of the ether—restless. Hot bottles to feet. Sulphate of morphia ⅛ gr. in whisky f℥j. every half hour till he becomes quiet.

"May 31st, 8 a.m.—Pulse 106, skin warm, tongue somewhat coated and brownish; is restless. Urinated at 1 a.m.; bowels also moved. Nausea continues. Ordered quinia gr. vj and whisky f℥iss daily, in divided doses. Morphia continued. 2.30 p.m. Pulse 120. Stomach still irritable; less restless. Two stools during the day, slimy and bloody; containing pus and blood-globules in abundance. Ordered opium and camphor, of each gr. j. and subsequently an enema of tinct. of opium f℥j in starch water f℥ij. 10 p.m. Pulse 125, increased in volume; has slept for half an hour; feels refreshed. Urinated in afternoon; the act slightly painful. No movement of bowels since enema.

"June 1st.—Pulse 125. Passed a very comfortable night. Bowels quiet, micturition natural, tongue slightly coated, appetite good. Whisky and quinia continued. Diet generous.

"2nd.—Pulse 128. Quiet night. Free from pain, but restless. Feels 'tired and worried.' Skin cool. Ordered opium and camphor, of each one grain, at night.

"3rd.—Pulse 120. Feels better. Fever declining. During night bowels moved naturally. Wounded parts suppurating well; a constant and profuse oozing of serum.

"4th.—Pulse 115. Comfortable.

"5th.—Pulse 106, full. Rested well during night, bowels and kidneys acting properly.

"7th.—Pulse 106. Doing well.

"12th.—Pulse 100. Appetite good, functions normal. Removed the sutures. Suppuration free, granulations healthy. A portion of vertical incisions united.

"25th.—Pulse 100. Convalescent; cheerful and hopeful; enjoys his pipe with unusual gusto. Wounded parts healthy in appearance, and much reduced in size. Encircled the scrotum and penis very tightly with adhesive straps to aid absorption. Diet as usual.

"30th.—Pulse 84; comfortable. The genitals daily decreasing in size.

"July 9th.—Patient in excellent health and spirits; strapping renewed alternate days. Has had frequent erections, and once a seminal emission. Walked up and down the ward to-day for the first time since the operation. Has great difficulty in balancing himself. His gait is uncertain, staggering and waddling; while his legs are slightly curved outward, as if to allow space for the tumour they have so long been accustomed to accommodate.

"August 6th.—The wounds have entirely healed, with the exception of a small spot at the junction of the scrotum with the under surface of the penis. The parts have yielded so much to the tight strapping that they are now but a trifle larger than natural. The patient walks without much difficulty, his peculiar gait being scarcely perceptible. His health continues to improve, and he is increasing in flesh.

"April 2nd, 1867.—Patient discharged from the hospital to return to Georgia."

Art. 198.—*Spontaneous Breaking-up of a Vesical Calculus: Iliac Phlebitis: Bilocular Bladder, &c.*

By Dr. Guyeniot.

(*Gazette des Hôpitaux*, No. 86, 1867.)

On July 3rd, 1867, Dr. Guyeniot presented to the Imperial Society of Surgery the urinary organs of a man aged eighty-three years, who had died in Necker Hospital.

For two years (from 1862 to 1864) this man, who had never undergone any crushing operation, expelled a great amount of calculous débris by the urethra. This expulsion was attended by pain, and was generally announced twenty-four or thirty-six hours previously by augmented distress at the neck of the bladder. The fragments were discharged after very irregular intervals and without the occurrence of any change in the habits or hygienic condition of the man that could explain the phenomenon.

The fragments, carefully collected, were fifty in number, and were clearly parts of urinary calculi of a vesical origin, varying in size, though generally of the dimensions of a pea. They were, in a number of instances, segments, more or less irregular, of the external parts of calculi. The distinct thickness of these shells proved that they were not the result of a superficial decortication or simple exfoliation, but rather of a division of the whole mass and of a true breaking up of the stones.

The patient was very infirm and much debilitated at the time of his admission into the hospital, and succumbed after having presented well-marked symptoms of phlegmasia alba dolens in the right lower limb, for which reason no operation was practised for the purpose of removing the stone. The autopsy revealed the following peculiarities:—

1. The bladder was found to be made up of two pouches of equal capacity, and each of the size of a large orange. The right pouch, which was the true bladder and into which the urethra and two ureters opened, contained six foreign bodies, that is to say, three stones and three fragments of stones. Two of these last seemed to be derived from one of the stones, as they evidently corresponded to losses of substance in the mass of this. The external appearance of these products justified the supposition that they were all phosphatic in their composition. The second pouch contained no calculi. It communicated with the first by a circular opening which allowed the passage of a large catheter, and it was filled, like the parent bladder, with purulent and fœtid urine.

2. The kidneys were intensely inflamed in every part, and presented on their surfaces small abscesses of the dimensions of a lentil. These organs contained neither stones nor gravel.

3. The prostate was considerably enlarged, and of the size of a duck's egg.

4. The right iliac and femoral veins were completely obstructed by a firm clot, which adhered loosely to the inflamed walls of the vessels. The origin of this phlebitis seemed very evident. In consequence of the extensive development of the bladder, which was composed

of two sacs joined side by side, the right external iliac vein was brought into contact with the organ at the very spot where the calculi lay. As a result of this, the wall of the vessel must have been injured directly by the stones, and have been involved by a simple continuity of tissue in the severe inflammation of the mucous membrane of the bladder. This is a fact which deserves to be noted for the explanation of inflammations of veins which are observed to occur in the course of vesical affections, or after certain examinations during which the pelvic veins might have been contused through the walls of the bladder.

ART. 199.—*On Incision of the Os Uteri and Mucous Membrane of the Body of the Uterus for the purpose of Relieving the Hæmorrhage produced by Submucous Fibroid Tumours.*

By Prof. O. SPIEGELBERG.

(*Mon. Schr. f. Geburtsk.*, 1867; *Schmidt's Jahrbücher*, No. 3, 1867.)

For removing this extremely dangerous consequence of fibroid tumours of the uterus there has been practised, besides the method recommended by Drs. Routh and Savage, the perfectly harmless proceeding of Mr. Baker Brown, who incises the os uteri and cervical canal. With this proceeding the names of MacClintock and Nélaton have been associated. Brown cuts deeply into the lips of the orifice and into that part of the canal which projects into the vagina. The last-mentioned practitioners probably carry the knife higher, for Spiegelberg has never observed the simple slitting of the cervical canal, which he performed at first according to Baker Brown's direction, to have the slightest effect upon the bleeding. On the other hand, he obtained decided improvement and relief of the bleeding in three out of five cases of broad-based submucous fibroid growths in which he made extensive incisions into the mucous membrane upon and above the os uteri. In these three cases the tumours reached nearly to the internal os. In the two unrelieved cases, on the other hand, the tumour was seated high up at the fundus of the womb. From these differences in the results of the operation corresponding in all cases to the situation of the tumour, it is probable that the hæmorrhage is not arrested through the uterus, excited by the incision of the os contracting about the tumour, as Baker Brown supposes, but rather through the action of the new growth itself, excited by the slitting of the mucous membrane, and through the possible occurrence of retraction and shrinking of its bloodvessels which are the sources of the bleeding. If the tumour project through the inner os, the incision involves the swollen and vascular mucous membrane: in the contrary cases it does not, and therefore the operation has no good result.

In the performance of this operation Spiegelberg first dilates the neck of the uterus with compressed sponge to such an extent as to admit the passage of the point of his index finger without difficulty. Along this

he passes through the inner os a probe-pointed, long-handled bistoury, which is pushed onwards for about ½ mm. into the cavity of the womb; pressing the cutting surface against the mucous membrane, he makes an incision about 1 mm. deep, and extends this to the os externum. A similar incision is next made upon the opposite wall of the uterine canal. A further introduction of the knife is not recommended, since it would not then be guided by the finger. In order to restrain the bleeding and to prevent quick reunion of the wound, a piece of lint dipped in oil is pushed upon a uterine sound into the os internum, and is renewed daily for the first three days.

Art. 200.—*Treatment of Bubo.*

Hospital Out-Patient Practice.

(*The Lancet*, Nov. 23, 1867.)

Subjoined is a comparative view of the mode of treating this common affection at certain of the metropolitan hospitals.

Guy's Hospital.—The following is an outline of the methods of treatment adopted by Mr. Durham in the ordinary forms of bubo.

1. In the case of the numerous, slightly enlarged, hard, painless glands usually associated with true syphilitic sores, no local treatment is considered necessary. The glands participate more or less directly in the general treatment. This essentially consists, in the majority of cases, in regular mercurial inunctions about the inguinal regions.

2. In the case of the less numerous (or single), more enlarged, painful and tender, but still somewhat hard, glands associated with simple or suppurating venereal sores, or with syphilitic sores which have become inflamed, or sometimes with gonorrhœa, *rest*, as thorough as possible, is enjoined. At the same time, all practicable measures are taken to remove the irritation and allay the inflammation of the parts primarily affected. When it can be borne, continuous pressure is maintained over the enlarged glands by means of a large pad of cotton-wool or lint, and a spica bandage. In some cases the iodide of potassium ointment, or the iodide ointment, is freely smeared over the parts beneath the pad, and from time to time gently rubbed in. In other cases (especially in those in which pressure cannot be borne, and in which the patient is obliged, or is able, to lie up), the skin over the glands is repeatedly painted with the strong tincture of iodine, or with some blistering fluid. In many cases in which there has been much tenderness, a combination of extract of belladonna with iodide of potassium has been applied with apparent benefit. Every endeavour is made in every case to prevent suppuration altogether, or at any rate to put it off as long as possible, and to confine it within the narrowest limits. If, however, suppuration should seem inevitable, warm fomentations and poultices are recommended.

3. In the case in which the skin is painful, red, and thinning, and in which it is manifest that suppuration has taken place in or about the glands, the buboes are at once opened by the lancet or knife in such a

manner as to give the freest and quickest exit to the pus, and poultices are ordered to be applied for a few days.

In cases in which there is but a small, soft, fluctuating spot surrounded by more or less defined hardened structures, and in which the skin is but slightly reddened, or not at all, and in which there are few signs of acute inflammation, a small puncture into the abscess is considered sufficient.

In some cases the abscess appears to be in the structures surrounding the glands, rather than in the glands themselves. In such cases, after the matter has been evacuated, the glands may be seen standing out, as it were, more or less enlarged and hard, and overlapped to some extent by the undermined edges of the incision. The application of strips of lint smeared with the red oxide of mercury ointment to the glands is the treatment ordinarily adopted when the case has assumed a chronic aspect.

In cases in which open buboes take on a chancrous aspect they are treated on the same principles as the primary sores to which they correspond. Some are stimulated, as by nitric-acid lotion or black lotion; some are soothed by the application of preparations of opium or anodyne poultices. Occasionally, but rarely, destruction of the surface by strong nitric acid is necessary. In many instances the iron lotion (ferri potassio tartras, from ten to twenty grains in one ounce of water) is found useful, or a mixture of the iron lotion with some opiate.

In all cases the most thorough rest compatible with the patient's circumstances is insisted upon; and in cases in which general rest is impossible, local rest is ensured as far as practicable by means of pad and bandage. In all cases, also, the general health of the patient is carefully attended to, and any constitutional symptoms are treated from time to time as they may arise.

St. Bartholomew's Hospital.—Beyond the continuance of general treatment for the disease, if any, from which enlargement of the inguinal glands has originated, Mr. Callender does not resort to any active remedial measures, the patient being simply required to rest as much as possible in the recumbent position, or at all events to abstain from active work. Occasionally, for a medicine-wanting patient, some lead lotion has to be prescribed; and when, as now and then happened, the glands are somewhat painful, an opiate plaster is found to be an acceptable application.

The most speedy and the most certain mode of dispersing such glandular enlargement consists in the removal of the causes of the irritation, foremost amongst which are affections of parts of the genital organs and of the lower part of the rectum. Often, however, from the inability of the poor to obtain sufficient rest, the parts around the enlarged glands inflame and suppurate. During this stage warm emollient applications give the greatest relief; and later on, when suppuration has been fully established, a vertical incision becomes necessary, but in no case is the knife had recourse to until matter has fully formed throughout the bubo. After letting out the pus, a linseed meal poultice for a day or two, and the subsequent use of water-dressing, complete the local treatment.

In broken-down subjects poisoned with syphilis, a bubo which has

ulcerated, is dusky-looking, with ragged undermined edges, and extending pretty widely through the groin, is frequently very slow in healing, not so much from any speciality which may infect it as from the ill-nourished and long-spoilt system in which it is formed. Whilst attending to the general health, help may be given to such by cutting away the overhanging edges, by laying open sinuses, and by local applications (such as the dilute nitric acid) which destroy the unhealthy structures forming its superficies. As an ulcerating bubo happens to be languid in its healing, or irritable or painful, various simple remedies suggest themselves, such as zinc or opium lotion, and so forth.

The local treatment which suffices in the great majority of cases is rest, incision when suppuration is established, and the subsequent use of water dressing. General treatment is of course as varied as are the conditions which influence the origin and the progress of the glandular affections.

St. Mary's Hospital.—Mr. Gascoyen has observed in his practice that most of the cases of bubo requiring treatment have occurred either in strumous persons or in those of that particular habit of body known as the *lymphatic temperament;* and he is disposed to believe that, in the large majority of patients, buboes are determined by constitutional rather than by local causes.

In the treatment of buboes, *rest* is the essential point to be obtained; and if the patient will early submit to this, the cases are but few in which suppuration may not be prevented. It is, however, difficult to secure this until the pain and inflammation have become severe.

After rest, Mr. Gascoyen has found poultices and warm fomentations of most service; the gentle warmth and moisture are most grateful, and, as they maintain the suppleness of the skin in the groin, the patient is enabled to walk about with greater freedom and less pain than under other methods of treatment. At night, some blue ointment, with or without the extract of belladonna or of opium, a weak iodine ointment, or some other form of mild discutient, may be smeared upon lint and applied under the poultice. These applications should not be rubbed into the affected parts, as the friction often acts injuriously.

Compression, by means of pads and bandages, has not succeeded in Mr. Gascoyen's hands, as it is impossible to keep the patient from walking about, and the constant rubbing thus caused by these appliances upon the swollen glands constitutes a further source of irritation.

If, in spite of treatment, the glands have remained enlarged for a length of time, and are inconvenient from their size, occasionally becoming painful with exercise, three or four leeches, applied twice or three times a week, will usually succeed in reducing them, either by promoting their absorption or by causing them to suppurate. A succession of small blisters will often bring about the same result.

In those cases where the glands are sympathetically inflamed, as in gonorrhœa, balanitis, excoriations of, or sores on, the penis, &c., rest and evaporating lotions will generally relieve the inflammatory condition; but if the skin become reddened and the swelling painful, ten or twelve leeches should be employed, and repeated if necessary, followed by poultices. When the pain has subsided, absorption of the swelling will be expedited by the use of discutient ointments as above.

Mr. Gascoyen has seldom found benefit from the application of ice in such cases; it usually produces considerable pain in the part, and cannot long be tolerated. In his experience, suppuration has usually followed its employment.

Should the inflammation pass on to the formation of pus, as soon as it can be detected a puncture should be made to relieve the pain and tension, and to allow the escape of the matter; the bleeding from the cutaneous vessels is also of service in relieving the congestion of the skin.

As a general rule, Mr. Gascoyen is averse to the use of the knife in the treatment of bubo; in acute cases, however, which require incision, a small opening should be made early. When the affection is subacute and progresses slowly, and especially in strumous patients, incision should be postponed until suppuration is not only fully established, but a sufficient time has elapsed for the affected glands to have become broken down, or until the attenuated skin would suffer by further delay, or the purulent collection has commenced to burrow beneath the integument and form sinuses.

In those chronic buboes which although taking origin in a local cause, are mainly dependent upon the state of the constitution, every means should be adopted to procure absorption of their contents, as not unfrequently large collections of fluid will entirely disappear, even when the skin covering them is much thinned and congested. Often, also, when the fluctuation is distinct, and the presence of matter seems to be unequivocal, a few drops of turbid serous fluid only will follow the knife, and a gaping wound results, through which large infiltrated glands protrude and prevent its healing until they have been destroyed. When sinuses have been formed by the burrowing of matter, incisions should not be resorted to until other methods of treatment have failed, as the large puckered cicatrices which result from this practice interfere greatly with the after use of the limb, and occasionally these scars, from over-exertion, will reopen and form most troublesome wounds to heal. To effect the closure of these sinuses, setons may be introduced through them, or they may be injected daily with stimulating lotions, or thoroughly plugged with lint, either dry or steeped in these. Pressure, by pads, upon their track is sometimes a useful adjunct; and, where the sinus is quite subcutaneous, pencilling the skin freely with the solid nitrate of silver will frequently excite sufficient inflammation to cause adhesion of the walls.

The indurated condition of glands which almost invariably attends a hard chancre, or is present in cases of constitutional syphilis, seldom requires local treatment. Should inflammation occur, it is the result of simple irritation, and is rarely followed by suppuration; rest and the remedies employed for the general infection will usually cause their gradual subsidence.

The reverse is the case, however, in the buboes which succeed to the soft or non-indurated form of chancre; but they are by no means its constant accompaniment. They may arise from simple causes, but sometimes are determined by the absorption of matter from the surface of the sore, and its transference to a lymphatic gland. When this occurs severe inflammation at once ensues in the gland and surrounding

cellular tissue, and an acute bubo is speedily formed. In these cases, as suppuration is certain to take place, Mr. Gascoyen advises that a somewhat free incision should be made very early to insure the escape of the pus as soon as formed. The matter is of a virulent character, and, like the sore from which it originated, capable of inoculation; so that the open bubo is in truth a glandular chancre, and must be treated as one.

The constitutional treatment of buboes must depend upon their cause; but, as a rule, it should be of a tonic character, except where there is much inflammation. In some cases iodide of potassium will be found of service. When the bubo is chronic, or an indolent sore has resulted, a moderate amount of stimulus, with a generous diet, is highly requisite.

Westminster Hospital.—Mr. Francis Mason is in the habit of treating the "sympathetic bubo," or that arising from simple inflammatory action, however caused, by the application of water-dressing from the commencement. The evacuation of the matter is delayed until the skin has become thin, when a small puncture is made in a dependent position, with a narrow tenotomy knife. The patient will scarcely feel this proceeding if the precaution be taken to make slight pressure on the surface, so as to render the skin tense at the seat of puncture. The contents are allowed to drain away spontaneously. Mr. Mason disapproves of violent manipulation in such cases, and believes that, besides causing much suffering to the patient, it favours the re-accumulation of pus. The water-dressing has some advantages over the poultice. It is more readily kept in position, and is cleaner and less cumbersome than the poultice, which gets dry, and sometimes becomes very uncomfortable. In the "suppurating bubo" that so frequently accompanies the simple non-infecting sore on the penis, a similar plan of treatment is adopted, unless the case proceeds to the complete destruction of the skin, leaving an unhealthy-looking ulcer, with ragged edges. The surface of such an ulcer may be much improved by the application of a poultice for a day or two, after which a lotion of nitric acid, or of myrrh, or the black wash, or even the water-dressing, according to circumstances, may be used with advantage. Mr. Mason finds that when the ulcer assumes an indolent appearance, the application of the powdered peroxide of iron to the part is attended with marked benefit. As a general rule, a tonic course of constitutional treatment is employed, adding, if necessary, five grains of Plummer's pill as an alterative every other night. As to the "multiple indolent" or amygdaloid enlargement of the glands which accompanies the "true infecting," or that sore which usually infects the system, no local application is used. Mr. Mason joins with those surgeons who delay the administration of mercury until the secondary eruption appears, when the solution of perchloride of mercury (P.B.), in drachm doses, is found to be a most valuable remedy.

London Hospital.—In the endeavour to prevent suppuration in specific bubo, Mr. Little is in the habit of applying leeches, one or two daily or every other day, according to the extent and degree of the inflammation in the part. He finds no other measure equally efficacious as this, which, if it does not prevent suppuration, generally lessens the size and acuteness of the abscess.

Mr. Little opens buboes early and freely, in order to limit the disease and hasten its cure, removing any thinned undermined skin, leaving a cavity with an aperture which any application can easily reach.

A weak solution of Condy's fluid is used at first, and superseded by a lotion of tincture of iodine (ten drops to an ounce of water) if the suppuration is excessive. Should the sore show no tendency to granulate, Mr. Little brushes the edges with nitric acid or removes them with the knife, fills the cavity with lint soaked in a somewhat stimulating lotion, and applies pressure with strapping or bandage; giving bark, quinine, or iron internally, unless other symptoms indicate the use of specific treatment.

University College Hospital.—Mr. Berkeley Hill's first object in treating venereal bubo (Mr. Hill prefers the term "venereal" to "syphilitic," as syphilis is seldom the cause of suppurating bubo) is to allay the congestion and hyperplastic action of the cellular tissue around the inflamed glands, as this new formation becomes pus with extreme readiness, and leaves obstinate ramifying sinuses. Before suppuration has commenced, the patient is ordered rest in the horizontal position, to foment frequently with very hot water, and, if the skin is already red, to lay on linseed poultices between the fomentations. If congestion is very great, a vertical incision half an inch long is made at the most prominent part, and bleeding encouraged by fomentations. Where this early treatment prevents suppuration, and irritation is subdued, the swelling is firmly compressed by a pad and spica bandage. If this swelling is slow to subside, the skin covering it is stimulated by painting with iodine and iodide of potassium dissolved in three times their weight of spirit, or some other blistering fluid. If suppuration takes place, as soon as the skin yields at any point the knife is used and the matter drained away. Sinuses are stimulated by passing threads along them to their farthest limit, and bringing the ends out through the skin. A weak lotion of sulphate of zinc or nitrate of silver is daily injected into their channels. If this fails to close them, they are laid open, and the undermining tracts stuffed with lint, poulticed for a few days, and then dressed with red wash. When the skin is purple, or much undermined, it is destroyed by potassa fusa and also poulticed. If the surface assumes serpiginous ulceration or becomes very indolent, or if a lymphatic gland remains without granulating, the surface is thoroughly cauterized with three drachms of nitrate of silver in half a drachm of nitric acid and an ounce of water, then well poulticed until the slough separates, and afterwards dressed with water-dressing and well bandaged. If the constitutional disturbance is considerable, a purge and a saline febrifuge mixture are given. Afterwards, good diet, with beer; and for feeble digestion, quinine, with tincture of perchloride of iron. For weakly or scrofulous persons, fifteen grains of tartarated iron, with cod-liver oil and other tonics, are given. Mr. Hill never gives mercury or antimony for this affection.

Art. 201.—*Ovariotomy Operations performed under the Influence of the Bichloride of Methylene.*

(*Medical Times and Gazette*, October 19, 1867.)

We are happy to report that two ovariotomy operations have been successfully and painlessly performed under the influence of the new anæsthetic (bichloride of methylene) discovered by Dr. Richardson. The patients were operated on by Mr. Spencer Wells, Dr. Richardson administering the anæsthetic. In both cases the results almost surpassed expectation. In the first, perfect insensibility was produced in four minutes; in the second case, in about six minutes. In both instances the patients glided, so to speak, into complete anæsthesia without a struggle. The second degree of narcotism, that of excitement, was almost wanting. There were no convulsive movements, and there was no vomiting. The pulse and breathing were remarkable for their entire accord, keeping throughout the normal ratio to each other. In neither case did the pulse rise more than eight or ten beats per minute. As during chloroform anæsthesia, the eyes were turned upwards, and the degree of insensibility could be determined by the insensibility of the conjunctiva. One patient was kept under the influence of bichloride of methylene for three-quarters of an hour; the other for thirty-six minutes. In each case, after the expiration of about half an hour, the pupils became slightly dilated. During inhalation there was no laryngeal irritation. Bichloride of methylene appears to differ from chloroform in the rapidity with which it produces anæsthesia, in the prolonged anæsthesia which results from its inhalation, and in the facility with which complete anæsthesia may be re-established by the reception of a very small quantity of the vapour when the effect begins to diminish. We may mention that in one instance, the room being warm and moist, the vaporization of the fluid was so rapid that frost was produced on the inhaler. This, however, did not in any way interfere with the inhalation.

(c) CONCERNING THE UPPER EXTREMITY.

Art. 202.—*Treatment of Whitlow.*

Hospital Out-Patient Practice.

(*The Lancet*, August 31, 1867.)

Subjoined are a few notes of the treatment pursued in cases of whitlow at some of the London hospitals:—

Middlesex Hospital.—Mr. Lawson says that whitlows should always be regarded as evidences of low power, and in considering the treatment of them this fact should be borne in mind.

When a whitlow threatens, the patient should, if possible, strike work, and a purgative should be given to clear the bowels of all irritating matter, as a preliminary to the tonic treatment which is to follow. The mineral acids with bark nearly always do good; or

their use may be preceded by diffusible stimulants, such as ammonia and chloric ether. Depressants are uncalled for, and will probably do harm. Warmth should be applied to the finger by linseed-meal poultices, changed two or three times a day; and, with each change of the poultice, the part should be soaked for at least a quarter of an hour in hot water.

The most important points, however, in the treatment of whitlow are—1st, to ascertain when pus has been formed; and, 2ndly, to give vent to it by a free incision.

The sense of fluctuation, which is usually one of the prominent symptoms of the presence of pus, cannot be appreciated when the matter is in the extremity of the finger or thumb. The natural elasticity of the part is so deceptive that it may be easily mistaken for fluctuation. The only reliable guides for determining the existence of pus in cases of whitlow are tension and pain. The cushion of the finger or thumb becomes hot and swollen, more or less tense, and exquisitely painful. The slightest touch aggravates the pain, which is of a throbbing character, and so severe as to destroy sleep. Such symptoms are diagnostic of pus, and a free opening should be at once made to give vent to it. The incision should be in the mesial line of the palmar surface of the finger or thumb, and of a sufficient length and depth to give a free escape to the pus. A warm linseed-meal poultice should be then applied, and the fomentations with hot water repeated from time to time.

Much might be said about the neglected whitlows which are often met with amongst the out-patients. The suppuration has been allowed to go on undisturbed; and no exit for the pus having been made, it either works its way to the surface by progressive ulceration, or it burrows beneath the palmar surface of the finger and thumb, in some instances extending into the palm of the hand. Even when the pus makes its way to the surface, there is always considerable destruction of the overlying tissues, and very frequently necrosis of the last phalanx. In treating such cases it is advisable to save the nail, and as much as possible of the end of the finger or thumb. By waiting patiently, the necrosed bone will become loosened from its attachments, and it may generally in the end be lifted away with a pair of forceps, and a very useful finger will be the result. Amputation should not be performed simply because the last phalanx is necrosed. It can always be resorted to after the other plan of treatment has been tried and failed. There are, however, cases of neglected whitlow in which amputation of the finger or thumb is the only treatment which can be rightly pursued; but these must be regarded as rather exceptional.

Westminster Hospital.—Mr. Power holds that there is no sufficient evidence of there being but two distinct forms of whitlow—the superficial and the deep-seated (onychia maligna); but that there are many degrees of inflammation, the severity depending essentially on the state of the patient's general health, and partly also on the cause and on the condition of the part itself. The disease commonly appears as a consequence of some slight injury, as a punctured wound; or results from disordered bowels, insufficient or unwholesome diet, night watching, or other depressing condition. If the patient be otherwise

healthy, and the skin, as in young persons, be thin and delicate, the affection, which is to be regarded merely as a boil, requires but little treatment. The bowels should be opened with a dose of compound jalap powder, a black draught, or castor oil. The hand and arm should be kept raised in a sling, and the finger, and even the hand, enveloped in a poultice of linseed-meal, with a view of softening the skin, of allowing swelling to take place more readily, and of facilitating the bursting of the little abscess. When this has occurred, the symptoms immediately remit, and quick recovery follows. Incisions are not needed in such cases; on the contrary, they do harm. If made, a drop of bloody pus exudes, and a reddish, vascular, fungous growth springs up, the pain recommences, and what would otherwise have been superficial and slight becomes deep-seated and severe.

When the formation of matter occurs under the nail or beneath the horny skin of the finger of the artisan, a different line of treatment must be adopted. Here the pain is very severe; and the matter, when formed, must creep and burrow beneath the skin or nail, and may easily, by the pressure it exerts, cause the ungual phalanx to die. General treatment is of little service, but the skin should be softened by the application of a poultice for a few hours, and a free incision be made. Water-dressing may then be applied; and if any recurrence of the inflammatory symptoms is observed, the whole of the finger should be well rubbed over with the solid nitrate of silver.

Finally, in very unhealthy subjects, when the disease has lasted for some time; when the subcutaneous connective tissue is infiltrated with matter, the skin raised in vesications, the finger, hand, and arm swollen, with red lines extending up the forearm, indicating the position of the lymphatics, and the gland at the elbow or those of the axilla swollen and painful, the use of the knife is indispensable, and the incision should be free and deep. If the bone is felt bare and necrosed, the whole phalanx should be removed at once; if not, it may be left, though it will generally necrose subsequently, when the inflammation has been so severe. The sheaths of the tendons should not be opened too far. They may recover their functions.

As regards general treatment, opium and sedatives are of little service. Common sense will dictate whether abstinence should be enjoined, or wine, full diet, and tonics administered. Persistent fistulous orifices indicate the existence of a portion of dead bone, which must be cut down upon and removed with forceps, or, if necessary, with cutting pliers.

St. Bartholomew's Hospital—Those varieties of the disease where the inflammation begins in the neighbourhood of the nail, and limits itself to the last joint of the finger, Mr. T. Smith treats by the administration of tonics, and locally by poultices or water-dressing, leaving the patient to decide whether the pus shall find its own way to the surface, or an earlier relief from pain shall be procured by incision. He believes that in any case where the matter is near enough to the surface to be seen through the skin, no other harm than some additional pain is caused by allowing the abscess to open spontaneously. He is in the habit, however, of opening early by incision the deeply-seated subcutaneous whitlows that occur over the last phalanx, in order to diminish the risk of necrosis. Should necrosis occur, the bone, when

thoroughly separate from the soft parts, is drawn out through some already existing sinus, or through an incision made just beneath and parallel to the free edge of the nail. Tendinous whitlow occurring on the first or second phalanges, Mr. Smith treats locally by early and free median incisions on one or both aspects of the finger. In any form of whitlow, when once there is a free exit for the pus, Mr. Smith recommends at the first the temporary and then the permanent discontinuance of the poultice, as tending in this stage to prolong and increase suppuration.

University College Hospital.—Mr. Berkeley Hill commonly confines his treatment to incisions carried through the cuticle in the cuticular and through the cutis in the subcutaneous variety, rest in an elevated position, hot fomentations, and poultices (purging and antiphlogistic remedies have often been already adopted by the patient before his application at the hospital); and good diet, with quinine and iron, are ordered. In the majority of cases necrosed phalanges, thecal abscesses, with sloughing of tendons or destruction of the articular surfaces of the phalangeal joint, rarely require any treatment beyond rest on a straight splint, and the removal of the necrosed parts as they become loose. Amputation of the fingers is very seldom necessary. After the fingers are healed, if tolerably straight, they are less unsightly than a hand minus a finger.

Art. 203.—*Amputation through the Forearm: Wound Healed by Primary Union.*

Under the care of Mr. Maunder.

(*The Lancet*, August 10, 1867.)

It rarely happens that amputation-wounds heal deeply by primary union, although adhesion of their edges is not uncommon. To avoid suppuration in compound fractures and other wounds, a dressing of carbolic acid has been resorted to with great success by Mr. Lister; and Mr. Syme has lately been advocating torsion of arteries with a similar object in view. The following is an unusual instance of primary union, independently both of carbolic acid and of torsion, the arteries being ligatured in the usual way.

E. M——, aged seventeen, a healthy-looking female, was the subject of a compound comminuted fracture, with excessive bruising of the hand and lower part of the forearm. The injury had been inflicted by the passage of a railway engine over the limb. Amputation at the upper third of the forearm, by double flaps—the posterior of integument only, the anterior compound,—was performed on the 19th of June. The raw surfaces of the flaps were carefully dried, and kept in apposition by a thick compress of lint applied over each, and held in position by a bandage. Three or four wire sutures were used, and the face of the stump was left open. Some swelling and redness of the stump followed, with slight sympathetic fever; but, with the exception

of the track of the ligatures, the flaps united primarily. On the 6th of July the deep parts of the stump were quite sound, and the edges of the flap nearly cicatrized.

Art 204.—*On the Supposed Luxation of the Long Head of the Biceps Cubiti Muscle.*

By M. J. F. Jargavay.

(*Gazette Hebdomadaire*, No. 23, 1867.)

From the clinical study of five cases which are detailed in his contribution, M. Jargavay has been enabled to draw the following conclusions as to the causes and symptoms of the lesion generally supposed to be a luxation of the long tendon of the biceps muscle :—

1. Simple luxation of the long tendon of the biceps muscle does not exist, or at least has never been demonstrated.

2. The lesion which has been considered to be a luxation of this tendon has its seat in the sub-acromial serous sac.

3. This lesion is an inflammatory enlargement caused by contusion or laceration of this sac, or by hypertrophy with induration of its walls and fibrous transformation of its cellular partitions consecutive to inflammation.

4. Its symptoms are the following :—Sensation of displacement at the time of the accident; swelling of the shoulder ; pain preventing movements of the arm, principally those of abduction ; forearm flexed upon the arm, and consequent rigidity of the biceps muscle and a feeling of uneasiness in the front of the elbow ; increase of pain and bruit below the acromion when the arm is raised and abducted, and the greater tuberosity is made to glide under this apophysis (the bruit is a kind of crackling sound, and gives the sensation of a reduction of something displaced—it is reproduced whenever the bone maintained in a horizontal position is rotated) ; relief of pain and restoration of the movements of the arm after rest ; the use of a sling for the forearm, and the application of resolvent lotions to the top of the shoulder ; habitual persistence of the crackling bruit even when the pain is no longer felt and the movements are free.

5. The application of electricity to the attachments of deltoid and supra-spinatus muscles is an excellent plan for keeping the scapula at rest, whilst at the same time the movements of the thoracic limb are determined.

Art. 205.—*Aneurism of the Right Subclavian Artery, treated by direct Pressure on the Arteria Innominata.*

Under the care of Mr. Porter, Senior Surgeon to the Meath Hospital.

(*Medical Press and Circular*, August 7, 1867.)

In this case Mr. Porter first placed an acupressure needle under the first stage of the patient's axillary artery. This treatment, for a time, promised to be most satisfactory, the tumour reduced in size and became more firm. The needle was removed in fifty-three hours without the slightest appearance of hæmorrhage, but the pulsation gradually returned, and became as strong as before the operation.

The wound healed perfectly, and the man was up and walking about in three weeks.

As the disease was increasing rapidly, Mr. Porter determined to attempt the cure by placing direct pressure on the innominate artery.

July 31.—Mr. Porter laid bare the vessel after a tedious and careful dissection, which occupied nearly forty minutes. The operation he selected was almost similar to that performed by Mott. Instead of using the acupressure needle and wire, as on the former occasion, he employed a most ingenious instrument invented by Doctor L'Estrange, which somewhat resembles a double aneurism needle without eyes. It is furnished with a moveable handle. One blade is first carried under the vessel, and the second is then passed down on the artery, and is made to compress it like the manner in which the jaws of a lithotrite are elosed, with the exception of the blades of this instrument being perfectly smooth and rounded. The blades are approximated by means of a screw, and when sufficiently brought together the handle is removed, leaving the needle in the wound. The patient bore the operation well, and all pulsation in the tumour was arrested by the instrument. He did not suffer the slightest inconvenience from shutting off the current of blood from that side of his head. A bag of ice was then applied to the tumour.

August 1.—He had passed a good night; felt no pain unless when he swallowed. His breathing was quite normal. Pulse 95; complained of slight thirst. The tumour more solid, but a faint pulsation had returned.

August 2.—Slept well. The wound looking healthy. He still complained of pain in swallowing, but at no other time. At half-past one o'clock p.m., Mr. Porter tightened the instrument, which again arrested pulsation. The aneurism is decidedly harder. Half-past nine o'clock p.m., Mr. Porter removed the needle; no blood followed, but pulsation returned strongly in the aneurism.

August 3. He passed a very good night. The wound is healing fast. All pain in swallowing gone. The tumour harder, but still pulsating. A small bladder containing ice and shot applied.

Further particulars of this interesting case are not given.

Art. 206.—*Fracture of the Humerus above the Condyles, simulating Subluxation of the Elbow-Joint.*

By Mr. Nunn.

(*Transactions of the Pathological Society*, 1867.)

Mr. Nunn exhibited before the Society a specimen of fracture of the lower end of humerus, in which no *obvious* deformity had existed except on extension, when excess of convexity of outline of the forearm was observable. On dissection, the joint showed no dislocation, but there was found a badly-united fracture of the humerus just above the condyles, so that the axis of the humerus formed with the axis of the elbow-joint a very considerable angle; but before complete dissection, a false appearance of subluxation inwards was given to the part. The patient rapidly recovered from the shock of the operation, and on the two following days seemed to be doing remarkably well; the pulse was good, and there was but very little pain at the seat of the operation.

Art. 207.—*Fractured Clavicle in an Aged Person without visible sign.*

(*Gazette des Hôp.*, August 3; and *Medical Times and Gazette*, Aug. 17, 1867.)

M. A. Guérin related to the Society of Surgery the case of a man, aged sixty, who complained of pain in the middle of the clavicle, which was, however, not severe enough to prevent the movements of the arm. There was no deformity or ecchymosis whatever; but on moving the arm with the hand placed on the clavicle, a slight crepitation could be felt. The patient in a few days died of pneumonia. At the autopsy an oblique fracture was found, the periosteum and all the soft parts remaining intact. Nor could the fragments be moved by almost violent direct pressure, but only by raising the ends of the bone. M. Marjolin observed, that when the diagnosis of these cases is difficult, the mode recommended by Robert may be tried. The patient is desired to raise himself upon his two wrists, and, while he tries to do this, the hand, applied over the clavicle, easily perceives the crepitation.

Art. 208.—*Removal of the entire Left Upper Extremity, including the Scapula and outer Half of the Clavicle.*

Under the Care of Sir William Fergusson, Bart.

(*British Medical Journal*, Oct. 26, 1867.)

The above operation was performed on Saturday last, by Sir William Fergusson, Bart., for the second time. The patient was a carpenter, and in good health two years ago, when he received a skin-wound, two

to three inches long, over the spine of the scapula. Shortly afterwards a growth appeared, seemingly in the substance of the scapula, but in no ways connected with the wound, and which, Sir William remarked, had possibly been present previous to his receiving the injury. In a month or two the tumour had perceptibly increased in bulk, and when he came to the hospital, a few weeks ago, the tumour was of considerable size, hard and bony.

The scapula being in such a state, Sir William Fergusson stated that it was irremediably diseased, and that, if left alone, it would become soft and fungous, forming fungus hæmatodes. He therefore determined, considering the success obtained by Mr. Syme of Edinburgh and himself, to remove the bone with or without the arm, as he might find necessary. The patient was then put under chloroform, and Sir William commenced the operation by making an incision over the outer two-thirds of the clavicle. He then dissected the parts away, and removed about one-half of the bone with the forceps; he continued the incision over the shoulder, and along the external border and angle of the scapula, dissected away the muscles and skin from the bone, and finally removed with it the upper extremity by an incision and a little dissection across the axilla (involving its smaller fold) from the clavicle to the outer border of the seapula. The vessels were seeured and a few sutures put in, the skin coming together most appositely.

Sir William said that he had found that the disease had not only involved both the costal and scapular aspects of the bone, but that it had also implicated the upper part of the humerus to such an extent as to prevent the forcible removal of the scapular, only a very slight movement being obtained; and that, in addition, the vessels were so involved that it would have been impossible to remove the diseased portions of the bone alone with safety to them. Besides, in the case of a girl he had operated on eighteen months ago, and who had visited the hospital this day in good health, he had removed only a portion of the scapula, but the disease returned, and he had found it necessary to remove the rest of the bone with the upper extremity. He had left the inner side of the claviele, as it looked better. The man had borne the operation remarkably well; and although quite recovered from the effects of the chloroform, still he was not aware that it had been done. Mr. Wood had commanded the subclavian with his finger, and the patient had not lost more than six ounces of blood at most. That this was the second operation of the kind which had been performed in London, and that in such cases as the one now operated on, it was perfectly legitimate.

The tumour, on examination, was found to consist of osseous tissue, with a few veins of cartilage running through it.

We are sorry to say that this case terminated fatally on Monday afternoon, at two o'clock. In the evening he seemed to be doing well; but symptoms of collapse set in soon afterwards. Stimulants were administered in large quantities by the rectum, the patient not being able to retain them on the stomach, but to no effect. At the *post-mortem* examination, his heart, liver, and kidneys, were found fatty; the kidneys being only slightly affected.

Art. 209.—*On the Diagnosis of Tumours of the Breast.*

By Thomas Bryant, Esq., F.R.C.S., Assistant-Surgeon, Guy's Hospital.

(*British Medical Journal*, Sept. 25, Nov. 9, 1867.)

The principal points by which the diagnosis of a case of tumour of the breast is to be determined were carefully gone over by Mr. Bryant in two clinical lectures at Guy's Hospital. The majority of the difficulties generally experienced in the diagnosis of such cases, Mr. Bryant said, will be found to vanish by making a systematic use of our eyes, our ears, and hands, in the investigation of the subject. In certain cases, it is true, difficulties may be experienced, but, in the majority, a fair degree of certainty is to be attained by the adoption of such a systematic mode of investigation as he explained and illustrated.

By way of a general summary of the whole subject, the following conclusions may be drawn up, contrasting the cancerous with the innocent affection.

1. *Cancer* generally attacks patients during the functional decline of the mammary gland—that is, after forty years of age; but *innocent* affections, as a rule, occur during the functional activity of the gland's life.

2. A *cancer* in the breast of a single woman is generally observed at an earlier age than in that of a married woman, the functional activity of the gland lasting longer in the latter case.

3. *Cancer* always infiltrates the gland, wholly or in part; but simple tumours, as a rule, seldom involve it to any great extent, with the exception of the true cystic disease.

4. *Cancer* generally affects the breast in a single centre, and from that rapidly developes. Innocent growths, cystic or otherwise, often appear as multiple tumours in connexion with one or both breasts.

5. *Cancer* generally runs its course within a period of three years; but *innocent* tumours may be developing for many years without causing much distress, affecting the patient only from local causes.

6. *Cancer* does not exist for any lengthened period without involving the skin by infiltration or ulceration; but in *simple tumours* of the breast the skin remains uninvolved to a late period of the disease—until, indeed, it is ruptured by over-distension.

7. *Cancerous tumours* soon become more or less fixed to the parts beneath, and immovable; but *simple tumours* are, with rare exceptions, moveable throughout the whole period of their existence.

8. In *cancers*, the axillary absorbent glands become indurated at an early period of the disease; in *innocent tumours*, they are rarely affected.

9. Neuralgic pains down the side and arm are common in *cancer;* in innocent affections they are rarely present.

10. Retraction of the nipple is found in both simple and malignant diseases of the breast, and consequently is of slight diagnostic value.

11. A discharge from the nipple exists in all affections of the true breast-gland. In *cancer*, it is sanguineous and scanty; in *true cystic disease* it is viscid and abundant, and can be readily increased by pressure on the cysts: in *inflammatory* it is watery or purulent.

12. In cases of tumour of the breast, when the skin has ruptured or become ulcerated, the margin of the opening or sore reveals the character of the disease; in *simple* cases, presenting the appearance of being ruptured, cut out, or punched; whilst in *cancerous* diseases there is no such distinct margin, the edges of the wound appearing thickened, indurated, and everted.

Art. 210.—*Sub-luxation of the Body of the Sternum.*

By M. Forster, M.D., of Thorndale, Ontario, Canada.

(*American Journal of the Medical Sciences*, October, 1867.)

The subject of this case was a young man who fell a height of sixteen feet. He fell head foremost, and struck between his shoulders, his head thrown forwards. Dr. Forster was called on the evening of the accident, and found, on examination, that the gladiolus had parted from the manubrium. There was depression of over half an inch at the lower part of the latter bone. Pressure over the point of depression caused considerable pain and slight difficulty of breathing. Dr. Forster applied a bandage to retain the shoulders as far backwards as possible. The patient was then placed upon a hard bed with a pillow between his shoulders, and allowed to remain on his back with his head lowered so as to elevate the clavicles and produce tension of the pectoral muscles. Dr. Forster applied pressure upon the body of the sternum, allowing the patient to take frequent and deep inspirations, thinking he might possibly reduce the parts at once, but did not succeed. Dr. Forster entertained the opinion that there was no other plausible way of reduction, on account of the situation of the parts, than to throw the head and shoulders backwards so as to draw the clavicles upwards, and produce tension of the pectoral muscles so as to draw them outwards; and that the two forces combined, assisted by inspiration, would draw the manubrium upwards and outwards, so that the parts would eventually become adjusted. At the end of three weeks the patient was able to resume his usual occupation, perfectly cured.

(D) CONCERNING THE LOWER EXTREMITY.

Art. 211.—*Treatment of Varicose Veins by the Galvanic Current.*

By Dr. Jasche.

(*St. Petersburgh Medical Zeitsch.*, 1867; and *British and Foreign Medico-Chirurgical Review*, July, 1867.)

Dr. Jasche, of Nishni-Nowgorod, states, that having employed the various injections for varicose veins recommended of late with unsatis-

factory results, he determined on resorting to galvanism in order to effect the necessary coagulation. By means of from four to six elements of Daniell's battery, he was enabled to produce a pretty thick coagulum, which firmly adhered to the walls of the vessel acted upon. A needle connected with the positive pole was passed through the vein when distended by pressure, either in the longitudinal but better in the transverse direction, the negative pole being usually brought into connexion with the tongue. The current was kept up for from five to fifteen minutes. On account of the numerous anastomoses the operation had to be repeated at different spots; and excellent results were often obtained when the dilated vein was closed by coagulation at both its upper and lower ends, or two such obstructions were produced at a short distance from each other. The punctures may be also advantageously made at the spot where the greatest dilatation has taken place, as a larger coagulum is produced than in the channel of the vessel, and it is not easily carried away. The little inflammation that results from the procedure is easily subdued; in the course of a few weeks the author's ten patients were able to enter upon military duties.

Art. 212.—*A Case of Traumatic Aneurism successfully Treated by Pressure.*

Under the Care of Mr. Holmes Coote.

(*Medical Press and Circular*, August 14, 1867.)

The following are the particulars of this case:—

George B., æt. forty-two, was admitted into St. Bartholomew's Hospital, July 19th. He said that while at work, four weeks ago, he let fall a needle about three inches long, transversely between the thighs, and, instinctively closing the limbs, he ran the point into the right member, over the situation of the femoral artery. Profuse hæmorrhage immediately ensued, which continued, in spite of bandages, till he became faint. He gave up work, and went home to bed. The bleeding, however, recurred, and soaked through handkerchiefs and bedding; but after a time it again stopped. He could not estimate the amount of blood lost, but thought it was over one pint. The next day he applied to another hospital, where he received dressings and was told to attend as an out-patient. The bleeding did not return, and after three weeks he was discharged.

The limb, however, at this time, was in a very unsatisfactory state. It was much discoloured at the seat of injury; it was weak, cold, and numb, and there was great pain when he attempted to use it, especially in the ham. The measurement was five inches more than that of the sound limb—namely, 21 inches, to 16 inches sound limb; and there was a longitudinal pulsating tumour occupying about four inches of the inner part of the thigh. The punctured wound was closed.

The treatment by pressure was determined on by Mr. Coote, who applied the proper apparatus July 27th.

August 3rd.—The pulsation has entirely ceased; the tumour is a firm mass; the limb is not more than one and a-half inch larger in circumference

measurement than the other; all pain has subsided, and the patient, a very intelligent man, says that he feels he could use the limb as well as before.

Measurement.—Right limb, 17½ inches; left limb, 16 inches.

5th.—The pad was removed for a time from the artery to-day; no pulsation returned in the swelling.

Art. 213.—*Large Aneurism of the Femoral Artery, successfully Treated by Compression of the Abdominal Aorta.*

Under the Care of Mr. George Lawson.

(*The Lancet*, October 26, 1867.)

The following notes of this highly interesting case are by Mr. Arnott, the surgical registrar of the hospital:—

John L——, aged thirty-six, a stableman, was admitted into the Middlesex Hospital on August 20th, 1867, suffering from an aneurism of the femoral artery of the left leg, situate a little less than one inch below the fold of the left groin, three inches and a half long by three inches broad. It is smooth, elastic, and strongly pulsating; the impulse closely following the systole of the heart, and with a distinctly expansile impulse. To the touch it gives the impression of an aneurism with thin walls. Heart's sounds normal. The arteries in the other parts of the body, as far as can be ascertained, are healthy.

On August 21, Mr. Lawson adjusted a Carte's compressor over the femoral artery at the groin, just above the aneurism, screwing down the pad so as to shut off all but a wave of impulse in the sac. The man bore the pressure very badly, and several times in the twenty-four hours the tourniquet had to be relaxed. He could not endure the pain it produced for more than one hour at a time. This man was ordered ordinary diet, with half a pint of porter daily. He took great interest in the treatment, and after he had worn the compressor for a few days he was able to regulate its pressure himself, screwing it up firmly as long as he could bear it, and only relaxing it every hour or so for a short time when he could not endure it longer. The tourniquet was frequently removed during the night, but replaced in the morning. The tumour, however, altered very little until the end of the sixth week, when it became slightly harder, rather smaller in size, and the bounding impulse was diminished.

On October 9th and 10th there was a very decided improvement in the condition of the tumour; its density had further increased, and the pulsations considerably lessened in force. Notwithstanding these changes, Mr. Lawson decided to adopt the treatment pursued by Dr. Murray, of Newcastle, and to compress the abdominal aorta so as to completely arrest the flow of any blood through the aneurismal sac.

On October 10th, at three o'clock p.m. (the bowels having been completely emptied by an enema), the man was placed thoroughly under the influence of chloroform. A Lister's tourniquet was applied over

the abdominal aorta, just above the umbilicus, and another tourniquet was placed firmly over the femoral artery just below the aneurism. Mr. Moore took charge of the tourniquet just over the aorta, whilst Mr. Lawson kept his finger on the artery just above the aneurism, to watch if any blood passed into the tumour. The tourniquets were kept on for twenty-three minutes; only once at the end of the fourth minute did a wave of blood pass into the sac of the aneurism, when the tourniquet over the aorta was at once tightened; but for the remaining nineteen minutes absolute compression of the vessel was maintained, and no blood entered the tumour. The man now became somewhat collapsed, and began to retch. The tourniquets were then removed, and the administration of the chloroform stopped. The pulsations in the tumour were diminished, but they were perfectly regular. It was, however, impossible to say whether the diminution of the pulsations were not due to the collapsed state of the patient. The man was returned to his bed, and the Carte's compressor readjusted over the artery. When the effects of the chloroform had completely passed off, he complained of coldness and numbness of the legs, with soreness in the belly. At seven o'clock in the evening, finding that all pulsation had ceased in the aneurism, the man himself removed the compressor. The house-surgeon was at once sent for, and he found that there was no longer any pulsation in the tumour. Since that time the man has continued to improve. With the exception of some feeling of soreness in the belly, which lasted for about thirty-six hours, the patient suffered no inconvenience from the treatment.

October 17th.—The aneurismal sac is now felt as a hard oval mass; the artery which leads to it pulsates strongly, but all impulse ceases at the upper edge of the tumour.

Art. 214.—*On a Case of Dislocation of the Hip-Joint into the Sciatic Notch, Reduced by the American Method.*

By Hector C. Cameron, M.B., C.M., House Surgeon, Glasgow Infirmary.

(*Glasgow Medical Journal*, July, 1867.)

Dr. Cameron records the following case:—

"Hugh P., aged fourteen, a boy engaged in a bottle-works, was brought to hospital on the 14th of May last with an injury to the left hip. He had been climbing up by his hands and knees on a pile of sawn timber, which stood in a yard where he was at play, and, when a certain distance from the ground, a plank which he had hold of came out from the rest, while at the same time his left leg became firmly locked between two others. Under these circumstances he fell backwards, while the body turned during the fall so as to leave him suspended by the leg, with his face towards the pile of timber. The hip-joint was thus subjected to powerful rotation, but whether outwards or inwards does not appear

clearly from the boy's statement. He further adds that, when in this position, he was struck on some part of the thigh by the falling plank, but the precise manner in which this happened is uncertain. His leg was disentangled by some one who was on the spot, and he was brought here about half-an-hour afterwards.

"On measurement of the two limbs from the anterior superior spine of the ilium to the tip of the internal malleolus, the injured one was found to be shortened by half-an-inch. The knee overlapped the other slightly; and, the foot being somewhat inverted with the heel raised, the great toe touched the ground close to and at the same level as the toes of the uninjured limb, when the patient was supported erect. The trochanter was displaced backwards and somewhat upwards, and the rounded head of the bone could be felt moving in its new position when rotation of the limb was performed. As the boy lay in bed the thigh was to a certain extent flexed on the pelvis. If forcibly pressed down into a more natural position, the back at once became arched, and when this was corrected the thigh again rose.

"The patient having been placed on a mattress on the floor, was put fully under the influence of chloroform, and several attempts were made to effect reduction by extension with a jack-towel attached to the thigh, while one assistant made counter extension on the axillæ, and another, by means of a towel passed under the upper part of the thigh, aided in trying to dislodge the head of the bone by traction outwards. These efforts at reduction being unsuccessful, I next tried the method of manipulation of the limb, introduced by Dr. Reed of Rochester, United States, and succeeded in this way at the first attempt. The leg having been flexed on the thigh, the thigh was, in its turn, forcibly flexed on the abdomen; then completely abducted, and, lastly, rotated outwards. This at once gave a sensation as of the head of the bone slipping back into the acetabulum, and on again extending the limb it was found to be, in all respects, normal in position and of the same length as the other. On being put back into bed, suitable means were adopted to prevent a recurrence of the displacement during his movements.

"Mr. Lister, under whose care the patient was admitted into the infirmary, saw the patient next morning, for the first time, and expressed himself satisfied with the condition of the limb. He was sent home on the 17th of May on account of a scarcity of empty beds in the ward, on the understanding that he was to remain in the recumbent posture for some time with his knees tied together.

"I may add that I saw him again yesterday (7th June) and, although still feeling the limb somewhat weak, he was walking without the slightest halt, and stated that he had experienced no pain since reduction had been effected. In appearance both limbs were alike, except that the last traces of the somewhat extensive ecchymosis had not yet disappeared from the posterior aspect of the left thigh."

ART. 215.—*Compound Fracture of one Thigh-bone at the Junction of the Lower Epiphysis, and Simple Fracture of the other.*

Under the Care of Mr. GAY.

(*The Lancet*, Ocober 12, 1867.)

The following is an interesting example of recovery after unusually severe injury:—

J. B., aged thirteen, was admitted into the Great Northern Hospital on the 29th of May, having been caught and thrown with great violence by a carriage wheel. The left femur was broken about the middle, and the right at the junction of the lower epiphysis. The end of the shaft of this bone, bare of periosteum and cartilage, protruded to the extent of two inches through a very extensive transverse wound in the popliteal space. There was no evidence of any injury to vessels or nerves. Chloroform was administered, and Mr. Gay made an attempt to reduce the bone; but it was found impracticable to do so without enlarging the wound, either by incision, or laceration in the effort. As the wound already involved half the circumference of the limb, Mr. Gay preferred sawing off the protruded bone. This was done, the bone replaced in its normal position, the wound stitched up, and the limb placed on an interrupted iron splint, both extremities of the limb being secured so as to maintain the fractured ends in a line with each other, and at the same time to keep up uniform and very gentle extension. The simple fracture was also adjusted, and the lad lulled to sleep by an opiate.

The right limb was carefully watched. There was a constant inclination in the upper fragment to obey the action of the abductors, which was overcome partly by the application of splints having a contrary bearing, and partly by accommodating the lower part of the limb to the constrained posture of the upper.

Nourishment and stimuli were freely administered. At the end of the fourth day the knee-joint became painful, and subsequently somewhat tense by effusion into its cavity. At the end of ten days the swelling began to subside, and at the end of the third week it had disappeared. The progress of the case in other respects was most satisfactory. Suppuration set in, and the wound began to heal.

At the expiration of six weeks the healing process was completed, and firm consolidation of the ends of both fractured bones had taken place. After another fortnight the lad walked, and in the course of three months from the occurrence of the accident his gait appeared to be almost as perfect as before the accident.

Pains were taken to compare the respective lengths of the two limbs, and particularly of the two thighs. There had been no overlapping whatever of the ends of the bones in the thigh that was simply fractured, so that its length was in all probability the same after the repair of as before the accident; and the most careful measurement could detect but very little shortening, not more than half an inch, in the length of the mutilated limb. An abundance of bony matter had been thrown out in the site of the fracture, but it did not appear to inter-

fere with the movements of the joint, or with the vessels or nerves in the neighbourhood.

Cases of the kind just reported are of sufficient moment to justify a few remarks. Even simple traumatic separation of the lower epiphysis from the femur has been followed by serious consequences. Mr. Canton, in the eleventh volume of the *Pathological Transactions,* records a case, and alludes to a second, in which he had to excise the joints on account of this accident. Mr. Hutchinson has, however, seen several recoveries. When complicated with a wound in the flesh, this accident is liable to be attended with very grave results, determined, however, very much by the tissues involved in the wound, and its extent. Mr. Hutchinson mentions a case in the fifteenth volume of the *Pathological Transactions* which closely resembled the one under Mr. Gay's care, with, however, one very important exception—viz., that in Mr. Hutchinson's case the popliteal vessels and nerves were torn across. Mr. Adams performed amputation in that case. The museum of St. George's Hospital contains a preparation in which the epiphysis was separated from the shaft of the bone and twisted upon itself, with a wound of the knee-joint, in a lad aged sixteen, who is said to have fallen from a height of eighty feet. Amputation was performed with success.

The question of primary amputation in Mr. Gay's case turned entirely upon the apparent immunity from harm of the main vessels and nerves of the limb. It affords abundant proof that under favouring circumstances a limb so injured can be saved, and that with the most trifling detriment to the powers of locomotion.

Art. 216.—*Contributions to the Clinical History of Idiopathic Diffuse Osteomyelitis.*

By Dr. Ed. v. Wahl.

(*Petersb. Med. Ztschr.*, 1866; *Schmidt's Jahrbücher*, No. 3, 1867.)

Dr. Wahl prefaces the report of three cases observed by himself with a very lucid review of the results of late investigations of osteomyelitis, in which he states that his experience confirms the assertion of Volkmann that this affection may occur, contrary to the generally accepted opinion, after the age of twenty-five years. It is put prominently forward as a distinguishing sign between osteomyelitis and diffuse cellulitis, that whilst in the latter the fluctuation is at first distinct at one limited spot, in the former the pus as soon as it has escaped from beneath the periosteum, which in osteomyelitis is always inflamed over a considerable extent, produces fluctuation which is distinct, but at the same time spread over a larger surface. Whether the presence of fat-globules in the pus be a pathognomonic sign of osteomyelitis, Wahl leaves undetermined. The neighbouring joints are involved sooner or later, they become enlarged and painful, and contain turbid synovia, afterwards pus and serum. The separation of the tibial epiphysis, which, according to Klose, constantly takes place, and generally about

the twentieth day, but according to Demme at a later period, has never been observed either by Wahl or by Volkmann.

The following are the cases that were observed by Dr. Wahl :—

Case 1.—A badly-nourished, scrofulous boy, sixteen years of age, received a blow upon the left leg. A week after he was attacked with violent fever and delirium. There was a doughy swelling of the leg which reached above the knee; the left lower limb was in a semi-flexed position. The case was diagnosed as one of diffuse cellulitis, and inunctions of belladonna were ordered. Two days later there was widely diffused fluctuation, and, after an incision, discharge of serum and blood-clots; the anterior surface of the tibia was exposed. Later still, in consequence of extreme swelling of the knee, a subcutaneous puncture of the capsule was made, and some thick flocculent synovia let out. On the forty-seventh day of the disease the patient succumbed to diarrhœa and increasing exhaustion. The tibia was almost completely uncovered and bathed in thin pus. There was pus in the knee-joint, and the cartilages were destroyed. In the upper tibial epiphysis were found numerous small purulent deposits, which communicated with the interior of the joint. The upper half of the medullary cavity was expanded, its walls were perforated, and the marrow converted into pus.

Case 2.—A strong lad, aged ten years, had a week before hurt his legs in jumping, and was soon afterwards attacked with fever. Both legs, and especially the left, were hot, very painful, and presented a doughy swelling. Iodine was applied externally, and quinine given in large doses. In the course of six days there was diffuse fluctuation in the left leg and swelling of the knee. On the nineteenth day an opening was made with the prismatic cautery, and pus and blood-clots discharged; the tibia was denuded. Death on the thirty-seventh day. The anterior part of the tibia was uncovered, the marrow in the lower part was softened, in the upper part swollen, red, and dotted with small purulent deposits. The medullary canal was expanded and perforated in its upper part. The epiphysis with the knee and ankle-joints were healthy.

Case 3.—An anæmic man, forty-eight years of age, was two weeks before affected with spontaneous swelling of the right knee. The lower half of the right thigh and the right knee-joint were much swollen and very painful. The knee was partly flexed. The joint was punctured repeatedly, with a discharge at first of thick synovia, later of thin pus. Iodine paint and bandages were applied, and an incision made at the inner side of the thigh. Strengthening remedies were given internally. The patient died on the twenty-seventh day. At the *post-mortem* examination were found pleurisy with purulent exudation, purulent degeneration of the medulla at the lower part of femur, expansion of the medullary cavity and perforation of its walls; the bone was to a great extent stripped of the soft parts, the cartilage of the knee was destroyed, and the capsule opened.

Art. 217.—*Suppuration of Knee-joint: Articulation laid freely Open: Recovery.*

Under the Care of Mr. Holmes Coote.

(*British Medical Journal*, August 3, 1867.)

Jane Lysaght, aged fourteen, was admitted into St. Bartholomew's Hospital, April 1st, 1867, with extensive suppuration around, but not involving, the knee-joint, following the prick of a pin eleven days previously. She had a somewhat anxious expression, rather rapid pulse, and furred tongue. She suffered a great deal of pain in the knee. At the time she pricked her knee, she did not take much notice of it, and continued her household duties as usual. From her description the pin seems to have entered just below the joint. She was ordered nourishing diet, stimulants, bark, and ammonia. A free incision was made, and a large quantity of pus evacuated, with great relief to her symptoms. In spite of this, the suppuration extended, and was followed up by other incisions.

Five days after admission there was noticed some slight infusion into the joint, with an aggravation of pain. This effusion gradually increased until the fourteenth day after admission, when the knee was very considerably swollen. There was also great swelling and tenderness extending half-way up the thigh. She was at this time in a very low hectic condition, and amputation was contemplated, when Mr. Coote, as a last resource, made a large incision four inches in length, freely opening up the joint on its outer side. Five ounces of pus were evacuated. She did not get much better for a few days, but after that the suppuration began to decrease, her general condition became better, and the appearance of the knee much quieter. From this time she gradually improved, and the incisions healed up.

She now (June 26th) has the limb incased in stout leather splints, and walks about with the aid of a stick. There is a little movement in the joint.

The great feature in this case was the laying freely open of the joint; for if this had not been done amputation through the thigh must have been the almost inevitable consequence, which would have exposed the girl's life to great danger, to say nothing about the loss of the leg. As it was, the danger to life was not only avoided, but she has recovered with a limb which will in all probability be eventually little inferior in utility to the other.

Art. 218.—*Repeated Resection of the Knee-Joint.*

(*The Lancet*, February 16, 1867.)

Several cases have occurred in which delay in healing, and the evident occurrence of necrosis after resection, has rendered a second operation necessary. At King's College Hospital, under such circumstances, it is

thought better to repeat the resection rather than to amputate the thigh. Sir William Fergusson has had three or four such cases, which have done well; and Mr. H. Smith had one in which the proceeding answered perfectly. On Saturday last, Mr. Smith again adopted the plan in the case of a lad whose knee-joint he had excised in July last. The boy went on well at first, then fell back, and was sent into the country for a few months—not to much purpose, however, for sinuses about the wound persisted, and showed the presence of dead bone, and the boy's health was suffering from the prolonged irritation. On opening up the wound, firm anchylosis was found to a limited extent between the femur and tibia. Lying behind the former bone was a ragged sequestrum, an inch or two long, representing the intercondyloid space of the femur—that portion of bone which is so often exposed to necrosis. There was an abscess in the head of the tibia. Mr. Smith removed a thin section of this latter bone and a portion of femur, and brought the bones into apposition again just as in ordinary resection. When the sequestrum came to be examined, an old arterial ligature was found lying about it. This must have been accidentally dropped into the wound in July last, at the time of operation, and there it had since rested. Was it the presence of this piece of string which excited inflammation leading to the death of the shell of the bone described?

Art. 219.—*Case of Gunshot Wound of the Knee-Joint; Removal of the Ball from the Articulation; and Recovery.*

By Walter F. Atlee, M.D., of Philadelphia.

(The *American Journal of the Medical Sciences*, July, 1867.)

The following case is placed on record by Dr. Atlee:—

John Devenny, aged eighteen, was shot by a pistol-ball in front of the left knee on the 26th of October last. The pistol was fired from a distance of a few feet, and in a direction downwards. He walked immediately after the injury to his residence, a distance of about half a mile. When Dr. Atlee first saw him, about two hours after the receipt of the wound, he was seated in a chair, the limb extended, and suffering intense pain in the articulation. On examination, the ball was found to have struck immediately below the centre of the lower edge of the patella; there was no wound of exit, and by a slight introduction of the probe, Dr. Atlee satisfied himself that the ball had entered and had passed beneath the ligament of the patella. The patient was put to bed, the wounded limb was kept as motionless as possible; water-dressings were applied over the knee, and morphia administered in large quantities. In the evening the joint was greatly swollen, the pain was increased, and the general symptoms were very severe.

The rule laid down by all authorities in such an injury is never to seek to extract the ball unless it shows itself, so to speak, of its own accord. Owing to the severity and rapid development of the local and constitutional symptoms in this case, it was determined, provided they

continued, to endeavour the following day—before any *secondary* symptoms, local or general, could occur—to find the ball, and extract it.

He next morning was accordingly placed under the influence of chloroform, and the search for the ball was proceeded with. The limb was placed in the position it occupied when struck, and Nélaton's probe was passed into the wound in the direction said to have been taken by the ball, viz., downwards and outwards, immediately below the middle of the lower edge of the patella, through the ligament. At a distance of two and five-twelfth inches the probe came in contact with the ball, firmly lodged in the articulating surface of the tibia, there buried to the depth of more than half its diameter. After prolonged efforts at seizure with a pair of unyielding dressing forceps, it was extracted. After the removal of the ball the limb was kept quiet by means of splints and sand-bags; water dressings were applied to the knee, and morphia was given as called for by the pain. On the 13th of November, the splints being still kept in place, the patient was allowed to sit up in a chair; on the 25th he went downstairs; and on the 26th, by means of crutches, he walked some distance. On the 12th of December the splint was removed.

After the operation nothing came out from the joint but a few drops of synovia. The ball weighed a few grains less than one drachm. On March 18th the patient was reported to walk quite well, aided by a cane. The joint was somewhat larger than that on the right side, and did not move more than about twenty degrees.

This case has appeared to Dr. Atlee to be worthy of being reported, for it would not have terminated so happily, he says, had rules formerly considered as established been followed; and they were not followed because, by the administration of chloroform, and the use of Nélaton's probe, a leaden ball can be searched for deep in a large joint, without producing any additional disturbance of importance. If the search be made gently, and if found and extracted, the patient's chances are incalculably improved.

Art. 220.—*On a Case of Talipes Equino-Varus.*

By Frederic Clowes, M.R.C.S.

(*The Lancet*, May 11, 1867.)

"The following case," Mr. Clowes says, "illustrates the fact that in somewhat severe cases tenotomy may sometimes be avoided, if only a proper plan and apparatus be used; also that free tenotomy, without careful after treatment and effective instruments, is useless:—

"G. F——, aged two years and a half. Congenital equino-varus of left foot. The member was considerably inverted, so that the child walked on the outer side of the dorsum, which was shown by a well-marked callosity in that position. The heel was much raised, and the foot could not be brought to a right angle with the leg, nor everted. There was considerable rigidity of all the parts concerned in the deformity.

"On June 22nd, 1866, I applied a padded straight splint to the outer side of the foot and leg. On the 30th the foot was brought so far into line with the leg and improved in shape as to allow of the use of an instrument with advantage.* Dr. Little's double-hinged lever apparatus was now applied, and complete restoration of form and eversion was obtained on July 22nd. At this time the case was seen by a surgeon of considerable experience, who advised section of the tendo Achillis; but as there seemed to be some signs of its yielding, I determined to try to bring down the heel without dividing it. Flexion of the foot was now therefore begun by means of the thumb-screw, and progressed so well that on August 18th this part of the treatment was completed, the foot being now easily and painlessly bent to the full natural angle.

"I have reported† other cases cured by the aid of the instrument above named; but in all of them the tendo Achillis, and sometimes other tendons, were divided. Since that time I have had cases of talipes varus in which this apparatus has aided me in the treatment both with and without tenotomy; but the one now described was the most rigid, and appeared least likely to be cured without division of the tendons. The case is also thoroughly satisfactory, a well-formed and strong foot being obtained, with as little tendency to relapse as would have been shown if the tendons had been divided, or rather redivided; for they had once been operated on, as will be seen below, and although eighteen months previous to the present treatment, yet it is probable that the parts yielded more readily than they would have done if no tendons had ever been cut, and probably, as redivision proved to be unnecessary, it might have been injurious. In some cases much harm is doubtless done by endeavouring to flex the foot without dividing the tendo Achillis, the foot really yielding at the tarsus instead of at the ankle-joint, and a weak and valgoid foot is the result. In the treatment of the eversion, a like error may be committed—that is to say, obtaining this without really replacing the tarsal bones; but neither of these evils occurred here.

"This patient belonged to the numerous class of 'imperfectly cured and relapsed cases.' About eighteen months before I saw it, the tendons of the tibialis anticus and posticus muscles and the tendo Achillis were divided by an eminent provincial surgeon. The foot was partially brought into position, and after three weeks' treatment the child was sent home, the only retentive means being a leather boot, with two india-rubber springs passing from it to a calf-band. The improvement obtained gradually diminished, and by the time I saw him the deformity had returned to its original state."

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* Made by Ernst, 80, Charlotte-street, Fitzroy-square.

† *Medical Times and Gazette*, April 7, 1866.

Art. 221.—*Sub-Periosteal Resection of the Os Calcis.*

By Thomas Annandale, F.R.S. and F.R.C.S. Edinburgh; Lecturer on Surgery; Assistant-Surgeon Royal Infirmary, Edinburgh.

(*Glasgow Medical Journal*, June.)

The following case is an illustration of the advantages of saving the periosteum in the resection of bones:—

The method adopted in this case of separating the periosteum and soft parts together, appears to Mr. Annandale to be the most useful in such operations. 1st. Because the bone to be removed can in this way be thoroughly exposed. 2nd. Because the bloodvessels of the reflected periosteum, and flap or flaps of soft textures, are not in any way injured, except along the line of the incisions.

For these reasons he prefers this plan of operating to that in which the diseased bone is scraped away or gouged from the periosteum.

In separating the periosteum from the bone, it is of great consequence to save as much as possible of its inner layer, as the experiments and researches of Ollier have shown that this is the chief bone-producing portion.

During the temporary absence of Dr. Gillespie in June, 1865, J. F., aged seventeen, came under Mr. Annandale's care in the Edinburgh Royal Infirmary. The patient, a well-grown lad for his age, had suffered from a swelling of his heel for about a year before his admission, suppuration had taken place, and a sinus had in consequence formed over the back part of the os calcis.

On admission, the whole heel was swollen, and very tender to the touch, the os calcis felt enlarged, and there was a sinus immediately above the insertion of the tendo Achillis into this bone. On introducing a probe into the sinus it passed into a carious cavity in the substance of the os calcis. The other bones of the foot were quite healthy. Shortly after his admission the patient's sinus was attacked with sloughing phagedena, which was then prevailing in the wards, and this led to a considerable destruction of the soft tissues around. In the beginning of August, the sinus, which had become converted into a sore nearly as large as a five-shilling piece, began to contract, and on the 14th of that month was reduced to the size of a florin.

At this date the disease of the os calcis was in much the same state as when the patient was admitted, and Mr. Annandale therefore thought it time to remove the affected bone.

Operation.—An incision was first made along the outer aspect of the bone, extending from the sore behind to the articulation between the os calcis and cuboid in front. Two short incisions were also made at right angles to and at each end of the first incision, the anterior one of which corresponded to the direction of the joint between the os calcis and cuboid, and the posterior one to the course of the tendo Achillis.

The incisions were made quite down to the bone; and then, with one of Langenbeck's instruments, he scraped off the periosteum, and

separated it and the flap of soft textures together from the entire surface of the bone. By extending the anterior short incision for a little distance into the sole of the foot, the flap was readily turned downwards and inwards, so as to allow the bone to be detached from its different articular and tendinous connexions. Very little bleeding took place, no artery requiring to be ligatured.

The flap was readjusted, and a gutta-percha splint applied to the anterior aspect of the leg and foot, so as to keep the parts at rest. Six or eight hours after the operation a little oozing took place, but was stayed by stuffing the cavity with lint.

The wound suppurated freely after the operation, but the cavity gradually contracted, and at the end of two months the parts were soundly healed.

Four months after the operation the foot had a very natural appearance, and the patient was able to bear a little weight upon it.

A mass of very firm tissue had taken the place of the os calcis, and although this tissue was not as yet osseous, Mr. Annandale has no doubt, from his examinations of other sub-periosteal resections, that in time a considerable amount of new bone would be produced in this case. Shortly after the patient returned to his home in the far north, so that he has never had an opportunity of verifying this opinion.

Art. 222.—*Irreducible Backward Luxation of the Ungual Phalanx of the Great Toe of Right Foot.*

By Dr. Riget.

(*Bulletin Médicale du Nord de la France*, May, 1867 ; *Gazette Hebdomadaire*, No. 25, 1867.)

On November 15th, 1865, Briollet, a soldier, presented himself to Dr. Riget in order to be exempted from military duty, and stated that he was incommoded by an enlargement in the great toe of the right foot. Examination of the extremity gave the following results :—The great toe was increased to double its normal size; measured from the internal projection of the anterior extremity of the first metatarsal bone to the termination of the ungual phalanx, it was found to be eight millimetres shorter than its fellow of the opposite foot. The nail was forcibly elevated, together with the corresponding phalanx, the head of which was felt displaced below the anterior extremity of the first phalanx, and the skin covering this osseous projection was much indurated. The movements of extension could not be performed, and those of flexion were completely abolished. The lesion was an irreducible dislocation of the ungual phalanx backwards, the anterior extremity of the second phalanx resting upon the middle of the anterior surface of the first.

Briollet states, that the lesion was produced in the following manner:—

In the month of May, 1864, whilst running in a yard at Montpellier,

his right foot came into contact with a stake fixed in the ground, the extremity of which projected for about three centimetres; he stumbled, and at the same time his great toe struck a stone fixed by the obstacle. The man after a few steps fell, the sole of his boot was torn, and he felt suddenly violent pain, and perceived that the right toe swelled instantaneously. By hopping upon the sound leg he reached his chamber with difficulty, and some attempts were made at reduction; but the continuation of these was prevented by pain, and by the existence of a wound at the spot where the boot had been pierced by the stake. He was admitted into the infirmary, and rested for three weeks. Five months after his fall Briollet set out for Arras, and was obliged to carry his knapsack and rifle upon his back during the long march. During the first stages the pain was very acute, the foot swelled, and the soldier was compelled to ride in a baggage-waggon. In a short time, however, a callosity formed under the head of the ungual phalanx; and the last fifteen marches were made without much difficulty.

Dr. Riget tried in this case all the proceedings that have been devised for the reduction of metatarso-phalangeal dislocation of the great toe; but after repeating his attempts for three quarters of an hour thought it prudent to desist, for fear of tetanus or other serious results.

Remarks.—This case shows what may result from a dislocation backwards being overlooked and remaining unreduced. In the following case the dislocation was a forward one; reduction here also could not be performed, and the result seems to have been more serious with regard to the man's marching.

Case.—In 1841, M. Riget assisted Dr. Pierson in his attempts to reduce a forward dislocation of the last phalanx of the left great toe of a soldier who had been admitted into the military hospital of Verdun. The man having been intoxicated, and pursued by a guard, fell from a high rampart, and was at once carried to the hospital covered with bruises. The only lesion requiring much attention was a luxation forwards of the ungual phalanx of the left great toe, which was diminished in length and increased in thickness; the head of the phalanx was felt situated upon the middle of the upper surface of the second phalanx. M. Pierson made attempts to reduce the dislocation by traction combined with extension, but failed; an extensive wound was the only result; and the soldier finding it impossible to march in the regimental boots, was obliged to leave the army.

Art. 223.—*Treatment of Ingrowing Toe-Nail.*

By Dr. Bailey.

(*Leavenworth Medical Journal;* and *British Medical Journal*, Nov. 16.)

Dr. Bailey suggests the following method of healing this deformity. He has found that the second toe always presses firmly against, and rather beneath the side of the great toe. It has occurred to him,

therefore, that if this constant cause of trouble could be dispensed with, and at the same time pressure applied in such a manner as to press the flesh away from the nail, a permanent cure could be effected without the use of the knife. To accomplish this, he has made a bandage, by taking a piece of strong muslin about one inch wide, and long enough to make two loops (by sewing), one large enough to slip over the great toe, and the other to slip over the third toe, and bring them close together, letting the second toe rest over or above the bandage, where it furnishes precisely the required pressure to crowd the soft parts away from the nail, and at the same time remove the pressure that caused the disease. In the few cases where he has used this appliance it has been followed by complete success.

Art. 224.—*Treatment of Corns.*

By Erasmus Wilson, F.R.S.

(*On Diseases of the Skin.*—Sixth Edition.)

"Remove the cause," Mr. Wilson says in his elaborate and comprehensive work on *Diseases of the Skin*, "is a favourite dogma of medicine; but the removal of the cause is not always practicable: hence we must study how we can best afford relief to these troublesome disorders. The *laminated corn* or *callus*, produced by pressure, congestion, and increased formation of epidermis, may be softened by moisture, as by soaking in warm water, by the application of a starch or soap poultice; and being softened, the thick cuticle may be thinned by scraping with a blunt knife, or the albuminous epidermis may be dissolved by an alkaline solution and moderate friction. When the thickening has been reduced sufficiently, it may be kept down by daily washing with soap. The *soft corn* requires removal with the knife; if it be of moderate size a single pinch with a pair of pointed scissors will effect its removal, while the hard callus will require a patient digging with the point of not too sharp a knife. The eye of the corn may always be made visible by rubbing the part with eau-de-Cologne or spirits of wine, and any remains of the core may be detected in this way either during or after the operation. After the operation the corn should be covered with a piece of soap plaster for a day or two, and a perforated plaster of buff leather or amadou subsequently worn to keep off pressure from the centre of the growth. The removal of a corn may be very considerably aided by the use of the compound tincture of iodine painted on the swelling. When the corn is painful this application subdues the sensibility and renders the cuticle dry and pliable and easy of removal by means of a file. Soap and water, so useful to the skin in many ways, are especially serviceable to feet afflicted with corns, and particularly when these are soft corns. Daily washing with soap and the subsequent interposition of a piece of cotton wool between the toes may be considered as a cure for soft corns; and in these cases the skin may be hardened by sponging with spirits of camphor after the washing. The cotton wool should be removed at night, and this is a good time for the use of the camphorated spirit."

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 225.—*On the Treatment and Cause of Difficult Labour in Pendulous Abdomen.*

By ROBERT BARNES, M.D.

(*Medical Times and Gazette*, November 9, 1867.)

"There is a condition causing dystocia, called the *pendulous abdomen*. It is most frequent in women who have borne many children, and in whom the abdominal walls are much relaxed. Where this occurs, the uterus hanging down in front of the pubes is out of the axis of the brim, and if it contracts, would only direct the child over the brim backwards against the promontory. This may sometimes be remedied by putting the patient on her back, and making up for the want of support from the abdominal muscles by applying a broad binder, so as to lift the fundus of the uterus upwards and backwards. This will restore the relation between the axis of the uterus and pelvic brim. But if contractile energy be still insufficient, the long forceps will come into use; and this is a case where the dorsal decubitus will much assist delivery. If the patient continue on her side, the uterus not only hangs forwards, but sways downwards to the dependent side, constituting a further deviation, and increasing the obstacle to parturition.

"How to determine the choice between forceps and turning? There are two cases; first, the liquor amnii has drained away, and the head is pressing into the brim; the forceps is strongly indicated here. Secondly, the head is mobile above the brim, and not easy to grasp in the blade; here turning may be preferable. I have several times rescued a living child by turning under the circumstances.

"The second case may sometimes be reduced to the first, and thus brought within the more desirable dominion of the forceps. One result of the pendulous abdomen and uterus is to form a kind of reservoir, in which the liquor amnii is dammed up; hence an added impediment to contraction of the uterus. Now the waters can be drained off by lifting the fundus uteri up to the normal position against the spine, laying the patient on her back, and making a channel past

the head to the uterine reservoir by introducing the lever or one blade of the forceps. Having accomplished this the uterus, under the combined advantages of restoration to its natural axis, and of steady pressure by the hands or a belt, may recover its power and expel the child. If not, the forceps supplies an easy remedy."

ART. 226.—*On the Indications for Manual Interference and other Agencies in the treatment of Abortions, with Cases in Illustration.*

By HUMPHRY SANDWITH, M.D., F.R.C.P. Lond.

(*The British Medical Journal*, July 13.)

In this paper, Dr. Sandwith cordially subscribes to the views of Drs. Rigby, Denman, and Ramsbotham, that, as a general rule, it is wise not to attempt the removal of the placenta by manual efforts in the abortions occurring during the first four or five months of pregnancy. He only ventures to dissent from the dictum of those great authorities, when they assert that such interference is never necessary. He says:—

"My attention was first specially drawn to this subject by a correspondence with the late celebrated Mr. Hey, of Leeds. In my letter to him, which is dated January 3rd, 1819, on the subject of an interesting case of abortion, at that time pending, I remarked, 'Manual assistance was attempted in this case from a perusal of some of Mauriceau's cases, and likewise of the chapter on abortions in Burns, in which that author points out the unpleasant consequences which often arise from the irritation of the putrid secundines, when detained long within the uterus. On the other hand, I have been prevented repeating such attempts partly from the want of success, and partly because both Rigby and Denman maintain the competency of nature unaided to accomplish the removal of the secundines in the early months.' From Mr. Hey's reply, I quote the following instructive passage:—'As no hæmorrhage attends the retention of the placenta in your patient's case, I trust the termination will be favourable. In my opinion, no attempt should be made to dilate the os uteri, nor to extract the placenta, even if the os uteri becomes dilated, unless the placenta be forced down into the collum uteri, and seem disposed to remain there. In that case, the finger might be passed round the projecting part with advantage.' He then recommended the introduction of the tampon or plug into the vagina, with a view to induce natural efforts at expulsion, and, in the event of hæmorrhage, still to retain the plug, and give infusion of roses, with free doses of laudanum. He adds:—'I have known a lobule of the placenta remain a fortnight in the uterus, and then be discharged without injury.' The above case occurred to a lady in a high social position, and the retention of the placenta excited great alarm. The abortion followed an attack of acute pneumonic inflammation, and occurred about the end of the third month. The fœtus remained suspended nearly three days at the mouth of the vagina, and then broke off from its

moorings. The case occasioned me great anxiety, more especially because the escape of the placenta was never detected, notwithstanding the most vigilant surveillance. A few mere shreds alone were seen in the injections, which were daily employed. It must either, therefore, have come away in such minute particles, by dissolution, or a process of mouldering, as to have been scarcely perceptible, or part of it had formed an organic adhesion in the uterus. The latter supposition is countenanced by what occurred in this lady's subsequent confinement, which fell under my management a year or two afterwards. For she then suffered from extensive adhesion of the placenta to the uterus at the full period of gestation, accompanied with severe hæmorrhage. Its careful separation, however, by the hand *in utero* was safely accomplished. This lady, after the lapse of forty-five years, is quite well. In truth, I received a letter from her only about a year ago.

"My attention has been once more drawn to this subject by a recent case of abortion, occurring probably about the third month of pregnancy, and under very critical circumstances. The patient, a most delicate lady, had suffered from a miscarriage in September, 1865, as also several weeks afterwards by a very considerable uterine hæmorrhage. But I did not see her on either of those occasions. Towards the end of December she was attacked with partial paralysis, affecting the organs of speech, vision, and some of the voluntary muscles of the left side. On this occasion I was consulted; and by careful management she nearly surmounted the effects of this attack in little more than two months. During the month of March, she had a smart attack of fever with gastric and abdominal irritation, from which she emerged in about ten days. But her convalescence was now interrupted by a second miscarriage, which, in her prostrate condition, was a source of great anxiety and alarm. Happily, the hæmorrhage was but slight at the commencement of the process, and never returned. But the retention of the placenta for about a week was a matter of no little concern both to myself and the lady's friends. A portion of the secundines expelled from the vagina hung attached to the retained placenta, which could be felt within the os uteri. It was practicable to employ a slight extractive force by means of the expelled but still attached secundines; but as hæmorrhage to any extent would, in all probability, have proved fatal, no mechanical force of any amount was used to remove the placenta, which happily was expelled by nature's own efforts at the end of about a week. The tampon, in the shape of relays of sponges, was constantly employed, with the view of exciting uterine action; and recourse was also had to an infusion of the ergot of rye. When given by the mouth, it produced much sickness; it was therefore administered in lavements, as recommended by Villeneuve; but it failed to produce any sensible effect. I should here state, that very soon the expelled portion of the secundines became a putrescent mass, for which I found Condy's patent fluid (which consists of the permanganate of potash), when properly diluted, an excellent antiseptic. Moreover, I soon cut off the pendulous putrescent mass, having first insulated it by a tape ligature at the mouth of the vagina. I need not dwell on the obvious dangers of this case, occurring as it did in an originally fragile constitution, which had to sustain blow after blow, first by the abortion in

September, then by the subsequent severe uterine hæmorrhage, next by the paralysis at the close of December, then by a smart attack of fever in the first week of April, and lastly, by a second miscarriage soon afterwards. In addition to these two miscarriages, she was the mother of two fine living children, though still only in her twenty-sixth year. Convalescence every now and then seemed imminent, but as often was interrupted by an irritable condition of the brain, the stomach, and the bowels, under the combined influence of which she ultimately sank exhausted.

"This last case is not a little suggestive on one point. Both the tampon and the ergot of rye greatly disappointed my expectations as to any immediate effect in inducing uterine contraction. And here I may mention that, at a late period of my attendance, I met Mr. Sleight, the family surgeon and accoucheur, in consultation on the case, who told me that his late father had on one occasion employed galvanism with apparent benefit under somewhat analogous circumstances. But, in our case, nature anticipated any measure of that kind by her own conservative and expulsive efforts when least expected. To myself, however, it remains an interesting question, under what circumstances, and with what precautions, we may supplement the tampon and ergot of rye by a cautious and wisely regulated application of galvanism."

Art. 227.—*New Method of Delivery by the Practice of External Manipulation.*

By Dr. Kristeller.

(*Berlin. Klin. Wochenschr.*, iv. 6, 1867; *Schmidt's Jahrbücher*, No. 4, 1867.)

After the very favourable results that have been derived, on the one hand, from external manipulation as recommended by Wigand in the better position of the fœtus, and also in the preparatory stages of labour, and, on the other hand, from Credé's practice of removing the placenta to complete delivery, Kristeller inquires whether it be not possible to regulate, by external manipulation, the course of a labour which is progressing abnormally, and thus to restrict the indications for manual or instrumental extraction. With weak, irregular, or faulty pains, and in cases where an abridgment of the labour is desirable, the following method of delivery has been followed by Kristeller for some time with the best results. Standing on one side of the woman, who is placed upon her back, he attempts to isolate the uterus from the coils of intestine, and to carry it in the axis of the pelvis. He then grasps it with his hands in such a way that the little finger is directed towards the pelvis, and the palm of the hand clasps the fundus of the uterus, or its sides, at the upper part, with the thumb placed upon the anterior, and the slightly-stretched fingers upon the posterior surface of the organ. Kristeller next commences to move the integument of the abdomen gently over the uterus, and then proceeds, keeping the hands in the same position, to exert upon the organ a pressure at first slight,

but later gradually increased in amount. A pause is soon made in the compression, which varies from one-half to three minutes, according to the gravity of the case, the stage of delivery, and the sensibility of the woman; after which the pressure is again exerted, though not at the exact place as before. The compressions are thus repeated ten, twenty, or forty times, and towards the end of delivery are continued with shorter intermissions.

Sometimes a few compressions suffice to bring a slow labour to a favourable conclusion. When no signs of any results are observed after twenty or thirty compressions, this method is given up. The compressions act, in the first place, by increasing the power of the uterus, and by exciting pains; and, in the second place, by removing spasmodic strictures by producing complete dilatation of the os uteri, and favouring the onward movements and regular descent of the child. When the child is descending one may feel, by introducing a finger into the vagina, that the movements take place simultaneously with the compressions produced externally, and if any parts of the child project from the genitals, the operator can perceive the visible results of the pressure. The pain caused by this manipulation is not generally much more severe than the pains of labour; with multiparæ, when the abdominal walls are lax, and in twin-birth after one child has been expelled, this method succeeds the best. On the other hand, when the integument of the abdomen is distended and thick, it is much more difficult, although, if the patient be narcotized, it may be practised with success.

Art. 228.—*Labour Obstructed by a Fibrous Band: Diseased Placenta.*

By Henry C. Rogers, Esq., Newport Pagnell.

(*British Medical Journal*, Oct. 19.)

The following case is related by Mr. Rogers:—

"On September 15th, I was called to Mrs. B., aged twenty, in labour with her first child. On examination, I found the membranes protruding through the os uteri, which was soft and yielding. The membranes having been ruptured, the head quickly descended to the perinæum. I then found an obstruction to its exit by what I at first thought to be the lip of the uterus over the head; but, upon passing the finger under the obstruction, I found it to be a band, apparently fibrous, attached anteriorly and posteriorly to the vagina, and which, until the pressure of the head distended the soft parts, had been lying along the side of the vagina. It was evidently an abnormal deviation of the hymen, and of so tough a character as to require division with scissors before it would allow the passage of the head, which was born with the next pain. Upon attempting to remove the placenta, I felt the cord was separating; and on passing my fingers along it, with the intention of reaching the insertion, I found the last seven or eight inches of the funis to be of an almost semi-gelatinous consistence. I then

attempted, by manipulation of the uterus, to make it expel its contents; but, failing in this, introduced my hand, and grasped the placenta. It broke down readily, being in a most rotten condition. In addition to this, it was firmly adherent at the anterior portion of the fundus. The uterus contracted firmly after the removal of the placenta; and, with the exception of a slight feverish attack, the mother has had no bad symptom."

Art. 229.—*Labour terminating in Expulsion of Hydatids.*

By Edward Crossman, Hambrook.

(*British Medical Journal*, July 13.)

The case Mr. Crossman reports is by no means unique, but has, he thinks, characters of practical interest sufficient to warrant a brief record. It is a case of pregnancy and labour at full time, terminating in the expulsion of a large mass of spurious hydatids.

The patient, aged twenty-eight, the wife of a well-to-do farmer, in October, 1865, bore a healthy child, which she suckled till the following July. In August she menstruated, and then became pregnant again. The usual symptoms of pregnancy were present, and all went well with her till January, 1867, when a slight hæmorrhage commenced, and, notwithstanding appropriate treatment, persisted for more than a month. From the middle of February till the middle of April she was pretty well. Occasionally a slight sign appeared, but not enough to call for more than a few hours' rest upon the sofa. She felt the movements of, as she supposed, the child, frequent but very weak. Her arrangements were accordingly made for lying-in during the month of May. On April 20th, while spending the evening from home, she experienced a sudden and severe hæmorrhage, with slight uterine pains. The pains subsided, but the hæmorrhage continued more or less until the morning of the 3rd of May, when active labour appeared to be coming on, and a message was sent to Mr. Crossman to hold himself disengaged.

Six hours later Mr. Crossman was summoned. The pains had steadily increased, accompanied by considerable but not alarming hæmorrhage; and, just before his arrival, two large masses of an hydatidiform growth, together filling a chamber-pot, had been passed. The pains continued; and half an hour later, a third portion, equal in volume to either of the others, was voided; after which the pains subsided, and the uterus was felt hard and firmly contracted, as after natural labour. Altogether a considerable quantity of blood was lost, and the patient was very faint; but, at the expiration of an hour, Mr. Crossman was able to leave her in as good condition as that of a woman recently delivered of a child, with after-pains and lochia fully established.

The sequel was most satisfactory. She went through the usual routine of a lying-in. On the third day, there was a profuse secretion of milk; and the involution of the uterus subsequently proceeded as after childbirth.

A careful examination of the substance expelled was made. It filled

a chamber-pot and a half. So far as Mr. Crossman could ascertain, there was little or no fluid discharged from the uterus. He could find nothing representing fœtus or placenta; but several large masses of solid half-organized coagulum, and pieces of tough white membrane. The bulk of the mass was made up of transparent vesicles, varying in size from one-eighth of an inch to an inch and a half in diameter; and these were arranged in lines and clusters, like bunches of grapes, and were attached to the pieces of membrane and coagula.

Art. 230.—*Birth of Twins connected together by their Thoracic and Abdominal Surfaces.*

By Dr. Scherer.

(*Bayer. ärztl. Intell. Bl.* 24, 1867; *Schmidt's Jahrbücher*, No. 7, 1867.)

The patient was a strong woman, thirty-six years of age, who had gone through five regular labours without artificial assistance, and one abortion, but had never been delivered of twins. She was again in the ninth month of pregnancy, and on September 15th, at three in the afternoon, pains came on; at six in the evening, the waters broke; and at eight o'clock, Dr. Scherer arrived, when he found the abdomen so much distended as to present to him the probability of a twin-pregnancy. The woman stated that her sensations during the previous six months had differed very much from those of former pregnancies; that she had experienced great oppression in the epigastrium; and that the movements of the fœtus, which had never been very active, had ceased altogether two days before. On making a vaginal examination, Dr. Scherer found that a right foot, livid and swollen, was presented. The hand, being introduced further, came upon a second foot, and soon afterwards upon a third. An attempt was made to bring down by the side of the presented right foot its fellow of the left side. This, however, after great exertion, was but imperfectly accomplished. Scherer next endeavoured to extract by the right alone, but there was such a very unusual amount of resistance, that this project was given up. All further examinations with the hand passed into the uterus were of no avail by reason of the contraction of the cavity, the continuous and severe pains, and the forcible straining of the woman. After a subsequent attempt to extract by the presented foot, the left extremity at last came further down, but the buttocks did not follow. Dr. Scherer next passed his hand above the left foot, in order to bring down the arm lying behind it; the forefinger was carried to the elbow, and the arm was freed from obstruction, which, in a very contracted cavity, was not perfected without great difficulty. Repeated tractions on the arm and feet at last brought to light nearly the whole of the buttocks, when Scherer, passing his hand upwards on the right side, for the purpose of attempting to bring down the other arm, perceived for the first time that an adhesion existed between the abdominal surfaces of the two fœtuses. Turning by the feet could not be brought about, because the

foot of the second fœtus felt at an early stage of the delivery always slipped away from the finger. Scherer then determined at once to free the head of the fœtus that was already partly born. The woman having been placed on her left side, two fingers could be passed into the uterus, and by means of pressing and dragging down the lower jaw, and external manipulation, the head was at last extracted. The delivery of the second fœtus was now readily accomplished by dragging down the feet. The common placenta followed immediately, together with the umbilical cord.

The twins were both females, of equal size, strongly built, and well-nourished, but dead. With the exception of a rudimentary formation of the fingers and toes, and a double hare-lip in one of the children, they were fully developed. The adhesion, which did not extend deeper than the integument, reached from the middle of the sternum to the umbilicus. A closer examination of the two fœtuses was not permitted.

The mother, who was very much exhausted after the labour, soon completely recovered without any treatment.

Art. 231.—*The Obstetric Hand.*

By Robert Barnes, M.D.

(*Medical Times and Gazette*, July 13, 1867.)

"In ordinary labour the obstetric hand is the only instrument required. It is also the only instrument called for in many of the greatest difficulties. In malpresentations, in placenta prævia, in many cases of contracted pelvis, in not a few cases where, after perforation, the crochet and craniotomy forceps have failed to deliver, the bare hand affords a safe and ready extrication. One cannot help seeing that practice is often determined by the accidental perfection of, or familiarity with, particular instruments. Thus, a man who has only reached that stage of obstetric development which is content with a short forceps, will be armed with a good perforator and crochet. He cannot fail to acquire skill and confidence in embryotomy, and greatly to restrict the application of the forceps. Again, the preference generally given on the Continent to cephalotripsy over craniotomy and extraction by the crochet or craniotomy forceps is the result of the great study directed to the perfecting of the cephalotribe. At the present day we may boast of having good and effective instruments of all kinds, each capable of doing excellent work in its own peculiar sphere, and, moreover, endowed with a certain capacity for supplanting its rival instruments. For example, the long forceps to supplant craniotomy in a certain range of cases of minor disproportion. Hence, it follows that it is of more importance to have a good forceps which can save life than it is to have a good perforator and crochet which destroy life. At the same time, it is eminently desirable to possess the most perfect means of bringing a fœtus through a very narrow pelvis, in order to exclude or to minimize the necessity of resort-

ing to the Cæsarian section. Our aim should then be to get the most out of all our instruments—to make each one as good of its kind as possible. And admirable is the perseverance, marvellous and fertile the ingenuity, that have been brought to this task. I will not say it has all been misdirected; but certainly the cultivation of the hand, the study of what it can do in the way of displacing cold iron, has been much neglected. It would be not less instructive than curious to carry our minds back when the forceps and other instruments now in use were unknown, and to confront the problem which our predecessors, Ambroise Paré, Guillemeau, and others, had to solve—namely, how to deliver a woman with deformed pelvis without instruments. That they did successfully accomplish in many instances with the unarmed hand that we now do by the aid of various weapons, there can be no doubt. If this implies greater poverty of resources on their part, it not the less implies also greater manual skill. I am confident that the possession of instruments, especially of the craniotomy instruments, has led within the last century to a neglect of a proper use of the hands, which is much to be deplored. We are only now recovering some of the lost skill of our ancestors."

Art. 232.—*An Abnormal Twin-Birth (One Head Keyed by Another.)*

By Theo. A. Tellkampf, M.D., late Physician-in-Chief of the State Emigrant Hospital and Refuge; late Division Surgeon U.S.V., &c.

(*New York Medical Journal*, May, 1867.)

The following case illustrates a variety of the so-called process in which one head is keyed by another.

Very few cases of such abnormal twin-births occurring within the last three months of pregnancy are on record.

"On March 17th, 1865, at six o'clock A.M.," Dr. Tellkampf says, "I was called to see Mrs. M., æt. twenty, primipara, who was seized prematurely with labour-pains. Her menstrual period had terminated on July 8th, 1864, and therefore she expected to be confined about the middle of April. She had enjoyed good health generally, and also during her pregnancy.

"For the last three weeks she had suffered occasionally from a feeling of pressure in the lower part of the abdomen, and for some days from bearing-down pains, which since one o'clock A.M. had gradually increased.

"When I arrived the pains were very severe, and they followed each other rapidly. In consequence thereof, the young lady was extraordinarily restless and agitated. Her statements, as well as an external examination, led me to suspect a twin-birth. There was, however, at that time no special reason for ascertaining whether that supposition was correct or not. In making a vaginal examination, I found the pelvis of normal capacity, the breech presenting (first position), the

membranes ruptured, and the birth progressing rapidly. The birth continued to progress favourably until the child was partially born, when suddenly all progress was arrested, though the child was of moderate size, and the pains continued strong and frequent. As the right arm might possibly be retained by the promontory of the sacrum, I pushed the child upward in order to bring down the arms. In bringing them down, though I found them normally placed, I experienced an unusual difficulty, which could be explained only partially by the high position of the head. I therefore at once made another examination, and ascertained that all the difficulties in this case were owing to an abnormal position of a twin child, the head of which, still within its amnion, was situated in the region of the throat of the breechling. Both heads appeared to be of normal size; the head of the second child presented in the second position of Naegele. The amnion covering it contained but a small quantity of liq. amnii (about four ounces), the greater portion coming away within the os on pressure, proving that the amnion was already ruptured higher up. It was now evident that the head of the second child had taken possession of the strait previous to that of the first, pressing the latter upward and backward against the os pubis; and thus the progress of the birth was not only arrested, but rendered impossible without obstetrical aid.

"During the next interval I tried to change the relative position of the heads by returning the head of the first and by displacing the head of the second child, but without avail, as the uterus was firmly contracted around the children and the heads firmly impacted. I concluded to apply the forceps without delay. The pulsations of the cord of the first child had by this time ceased altogether.

"Dr. Boldemann, who, according to my wishes, had been called in, was kind enough to assist me. As soon as the patient was brought under the influence of chloroform, the body of the first child being properly elevated by Dr. B., I applied the forceps to the head of the second child. The application of the first blade was difficult, that of the second quite easy. Moderate traction was sufficient to deliver the head. Immediately after the head was born I brought down the arms, and as soon as that had been accomplished the head of the first and then the body of the second child followed.

"The placenta was easily removed; it was double; the membranes consisted of one chorion and two amnions.

"Both children were females, weighing from six to seven pounds each.

"The second child, which had suffered from pressure by the head of the first, was somewhat asphyxiated when born, but after a few minutes respiration was fully established by the usual means. Its development has been favourable in every respect, and it is perfectly well at the present time.

"Mrs. M. suffered for the first few days after her delivery from retention of urine, rendering the application of the catheter necessary, and subsequently from incipient cystitis, caused undoubtedly by pressure of the head of the first child, which readily yielded to general and local treatment."

Art. 233.—*Extraordinary Case of Early Viability.*

Reported by William Kennedy, M.D.

(*New York Medical Journal*, July.)

This case is related by Dr. Kennedy in the *New Orleans Medical Journal*. Unfortunately it is so only from memory, as the Doctor had all his copious notes of the case, together with his library and property, destroyed in the late war. However, complete reliability may be placed on any statement coming from him, as far as its truthfulness is concerned, and he recollects enough of the ease to show that it is unique. In 1845 a primipara gave birth to a fœtus "not more than eight inches long, and as red as a piece of raw beef. True dermoid tissue could not be said to be organized, its general investiture being so delicate a membrane, as it were, that the eye could look through it on the tissues beneath. The eyes were still closed; there were no traces of cilia or supercilia; its chest was about two inches broad, the arms and legs very slender, and the toes and fingers devoid of traces of nails. The head was about the size of a small orange. The respiration was so feeble as scarcely to be perceptible, and not a sound was uttered after its birth. When I laid it in the length of my left hand, the head lay in the concavity of my flexed fingers, the chest and breech in the palm, and the feet reached almost an inch beyond the wrist." It was carefully wrapped up and fed, first with sugar and water, and afterwards with milk, having frequent baths in a tumbler. Within three weeks after birth, it had an attack of trismus, and its whole infancy was stormy in the extreme; hydrocephalus, cholera infantum, measles, diarrhœa, being some only of the affections which it suffered. However, when last seen, this atom of humanity had developed into a fine healthy boy of twelve.

Art. 234.—*Soot-Tea in Uterine Hæmorrhage.*

(*British Medical Journal*, June 22.)

Dr. E. A. Wood, of Pennsylvania, recommends the use of wood-soot, as possessing the power of controlling uterine hæmorrhage in a marked degree. It is best prepared for administration by tying it in a muslin bag, placing it in a convenient quantity of water, and boiling for one hour. Tea thus prepared may be given in doses of a wineglassful every half-hour until hæmorrhage is restrained.

Art. 235.—*Spasm of the Gravid Uterus.*

By C. B. Suckling, M.D., M.R.C.S. Eng., Senior Surgeon Accoucheur, Queen's Hospital, Birmingham.

(*Medical Times and Gazette*, August 3.)

Dr. Suckling cites the following case to show that we are sometimes consulted about what may seem trifling ailments, and to urge that it is

as necessary in midwifery, as it is in medicine and surgery, not to treat them with indifference and neglect:—

The patient was thirty-five years of age, and had had seven children, five of whom are living, the other two died in early life. All her labours had been natural, and her "gettings about" good. She was again pregnant, and had advanced as near as she could judge to the eighth month of gestation. Up to the seventh month her health had been uniformly good, but during the last week or two she had felt great uneasiness in the region of the uterus, which was more marked at night when she was in bed. It was attended by loss of appetite, depression of spirits, and great anxiety of mind, which she regarded as harbingers of impending evil. She was alarmed most by what she described as a "drawing" sensation in the abdomen, about the umbilicus, and she stated that at times there would quickly rise up a lump in it on one side, which would suddenly disappear, and rise up again on the other, and which was succeeded by a feeling of faintness and despondency of mind. In answer to questions, she stated that she had no discharge from the vagina, no actual pain in or around the uterus, only the sense of uneasiness which made her very unhappy. There was no bearing-down effort, no impediment to the free passage of the urine and fæces; but she was occasionally annoyed by an itching and irritation of the anus, which she attributed—and justly so—to piles, and which were relieved by cooling saline purgatives. Her chief cause of complaint was the intolerable uneasiness of, and drawing sensation, and the erratic tumours in, the abdomen, for the relief of which she consulted Dr. Suckling.

The "toucher" showed the os uteri patulous to the extent of three-quarters of an inch; its lips were soft and yielding. The child's head presented, the presentation could be diagnosed. There was no abnormal condition of the uterus, no prolapse, no obliquity, nor any deviation from its normal position at the eighth month of utero-gestation. This is a case which is described by Meigs under the name of "Alternate Hardening and Contraction of the Womb," and which he ascribes to the retentive and expulsive faculties of the uterus, which are oftentimes brought into action as the womb approaches near to its term of gestation. Another American writer on obstetrics has noticed a similar condition of the uterus more frequently occurring in primiparæ, and he speaks of it as the independent contraction of the uterus, accompanied by a bearing-down sensation so characteristic of true labour-pains, but arising from the muscular irritability of the organ, and that they are to be regarded as simply preliminary to labour.

This condition of the uterus should not be confounded with an irritable condition of that organ, with the movements of the fœtus *in utero*, or with true labour-pains; the alternate hardening and softening of the uterus at certain places, and intervals of longer or shorter duration, are sufficiently diagnostic. For this patient Dr. Suckling prescribed bromide of potassium in ten grain doses three times a day. The first dose gave relief, and after it had been taken four or five times, a feeling of comfort succeeded that of uneasiness, and the drawing sensation in the bowels disappeared.

Art. 236.—*On the Induction of Premature Labour by Injection to the Fundus of the Uterus.**

By Professor Lazarewitch, of Charkoff, Russia.

(*The Lancet*, October 26.)

The author first described the various modes in use for the artificial induction of labour, and showed how their action was limited either to parts remote from the uterus or to the vagina, or to the cervix or cavity of the uterus. He laid down the proposition that the nearer the irritation is to the fundus uteri, the more sure and speedy is the result; and, *vice versâ*, the nearer it is to the orifice of the uterus, the more violent and protracted will be the resulting action. The grounds of this opinion were fully detailed, and proofs given from the practice of the several methods before referred to. The physiology of parturition was considered at some length, with the view of demonstrating that the first step in labour is the separation of the membranes from the uterus. In consequence of this the ovum becomes, as it were, a foreign body, and the uterus begins at once to contract in order to effect its expulsion. Such being the *rôle* in natural labour, the author contended that our efforts in the artificial induction of it should aim at imitating this process, and such he stated was the effect of his method. Several circumstances appear to prove that the fundus uteri was much more sensitive than the rest of the organ, and hence the inference that to that situation attempts should be made to excite it to action when labour is required. The author next gave a description of the instrument which he uses for this purpose. It consists of a glass syringe, graduated to fluid measure, and capable of holding about eight ounces of water, the piston being in the form of a double screw, so elongated as readily to work up and down by mere pressure or traction. To the end of the syringe is attached a soft, flexible, metallic tube, about six or eight inches long, which is intended to reach the fundus uteri. The tube is first placed *in situ*. The syringe is then filled and fixed to the tube, great care being taken to secure the seclusion of air from every part of the instrument. When all is ready, the piston is slowly pushed down, and the fluid is injected up to the fundus uteri. Twelve cases were given at great length by the author, and the conclusions derived therefrom were, that in all uterine action was set up, two only requiring a second injection to increase the labour pains. The fluid used was warm water at 28° R. The quantity used was, in four cases, 6 oz.; in one, 5 oz.; and in the remaining seven, 4 oz. In all but one case labour-pains began immediately, and continued until it was completed, in from three and a half to thirty-six hours, the mean duration being nineteen hours from the time of injection. In one case only death occurred, and that was in no way due to the operation. Nine of the children were born alive, one was still-born, and two died before the operation. Labour was induced for various reasons, and in all the cases

* Abstract of a paper read at a meeting of the Obstetrical Society of London, on October 2nd.

the aim of the operator was wholly or partially attained. In the majority of cases no other preliminary measures were adopted beyond attending to the bowels.

Art. 237.—*On the Cephalotribe.**

By Sir James Y. Simpson, Bart., M.D., Professor of Midwifery in the University of Edinburgh.

(*British Medical Journal,* October 19, 1867.)

In speaking of the cephalotribe Sir James Simpson said:—

Dr. Hamilton, many years ago, was in attendance on a young woman whose pelvis was very deformed, and in order to deliver her he had to remove the whole arch of the cranium; and he states that after having done it, which took him eight hours, he had to be rolled up in blankets and carried home himself; so what must have been the state of the patient when the doctor was so bad? Notwithstanding all that, they had the base of the skull quite entire; and in putting on the cephalotribe it broke the head at once. In reference to the size of the pelvis, M. Pajot stated that he delivered women with a pelvis of an inch and a half. That, in Sir James Simpson's opinion, was too small a pelvis to be delivered at all, and it was one where the woman ought to submit at once to the Cæsarian operation. He himself had attended a case where a very deformed woman was attempted to be delivered by craniotomy. He used that instrument (exhibiting a cephalotribe), and the delivery was over in two or three minutes. The instrument used was quite curved, and the advantage of it was that it would not slip when a straight pair would. One of the great difficulties is this, that after fixing the head it slips backwards. The instrument needs to be pushed very far forward, and with a long straight forceps it is almost impossible to hold the head. The instrument exhibited was a very powerful one, and very heavy. The cephalotribe, with teeth for fixing the scalp of the child, he regarded as a great improvement; but it is a little more complicated in its arrangement than others. It was an instrument capable of crushing any head, and rendered the operation of craniotomy easy and safe for the patient.

Art. 238.—*The Cephalotribe.*

By J. Braxton Hicks, M.D., F.R.S.

(*British Medical Journal,* August 30, 1867.)

At the thirty-fifth Annual Meeting of the British Medical Association, held in Dublin, August, 1867, Dr. Braxton Hicks exhibited the cephalotribe described by him in the *Obstetrical Transactions* of London, 1866. He briefly narrated four cases in which it had been employed by him. He

* Read before the Midwifery Section at the Annual Meeting of the British Medical Association in Dublin, August, 1867.

considered the cephalotribe a very valuable addition to the midwifery-bag, but he looked upon it as an instrument to be employed with others, rather than entirely by itself. He held it a rule that perforation should precede its use, for these reasons:—1. If it did not, a much more ponderous instrument was necessary, and this made the difference in the size required. 2. The fœtal head was much less likely to slide from its grasp. Dr. Hicks then stated the results of many experiments made on still-born children. 1. He had found, with perforation previously done, that Sir James Simpson's instrument was sufficient, which he had, as regards the blades, very nearly followed in his own form. 2. When the head has been perforated, the cephalotribe may act beneficially in two ways: (*a*) by crushing the base completely; or (*b*) by causing the tilting of the base by the slipping upwards of one blade, whereby the squamous portion of the temporal bone and the parietal is pressed inwardly on to the base; so the head is completely flattened with the base sideways. 3. By either of these processes the blades may be brought close together, so as completely to compress the head. 4. About two applications are sufficient. 5. The chest and pelvis offer practically no resistance. Dr. Hicks thought that it scarcely would act as a substitute for Cæsarian section, because the plan he had already re-advised—namely, of removing the calvarium and inducing face-presentation—would reduce the head to probably less size than the cephalotribe, and, he thought, could be worked in the same space. He looked, therefore, on its advantage as chiefly lessening the risks of cephalotomy by shortening the time of the operation, and leaving no spiculæ of bone to cause injury. He said the cases to which it was more particularly applicable were those of narrow brim, with good transverse diameter: while it was less useful in those where the pelvis was small laterally, because the compression of the head was generally in the transverse diameter, very little in the longitudinal.

Art. 239.—*Two Cases of Labour Illustrating the Use of the Cephalotribe.**

By J. Ringland, M.D.

(*British Medical Journal*, August 31, 1867.)

The first case was one of extreme general anasarca, deeply involving the whole contents of the pelvis. Delivery failed to be effected by either the forceps or crotchet; but was easily completed by the cephalotribe, after several crushings, and with but little traction. In the second case the conjugate diameter of the pelvis was less than three inches. The forceps were employed without any beneficial result; but the delivery was terminated without difficulty after one crushing by the cephalotribe, that instrument having been used as a tractor. Dr. Ring-

* Abstract of a paper read at the thirty-fifth Annual Meeting of the British Medical Association.

land having witnessed and taken part in some of the cases detailed by his colleague, Dr. Kidd, in his paper on the subject read before the Dublin Obstetrical Society, and reported at page 224 of the *Dublin Quarterly Journal* for February, 1867, and more especially in the case detailed at page 333 of that journal for May, 1867, submitted the conclusion to which he had come, from these as well as his own two cases, as to the practical value of the instrument in question.

Art. 240.—*Cæsarian Section on account of a Fibroid Tumour Springing from the Posterior Wall of Pelvis.*

By Professor Dohrn, Marburg.

(*Monatsschr. f. Geburtsk.*, 1867 ; *Schmidt's Jahrbücher*, No. 3, 1867.)

"The patient was a woman twenty-eight years of age, with whom labour commenced at the normal end of her first pregnancy. Repeated examination proved the pelvic passage to be much contracted by a tumour, the nature of which seemed to be bony—an exostosis. The pains commenced March 1st, but were not energetic before the 7th, when, with the consent of the woman, Cæsarian section was resorted to, as there were certain signs that the child was alive. The operation, during which nothing particularly remarkable occurred, was quickly and successfully performed, and a living child was brought into the world. The wound was closed by four silver wire sutures, and also by two silk sutures, applied between every two wires. The child was fourty-seven centimetres in length, and weighed 2900 grammes. Over the left side of frontal bone was a mark produced by the pressure of the tumour. In consequence of an attack of peritonitis, complicated with pneumonia on the right side, the woman died on March 13th, in the afternoon.

"On post-mortem examination, the pelvis presented on its posterior wall an oval tumour, which had its broad end directed downwards, and arose above and to the left side from the bodies of the five lumbar, and below from the bodies of the first two sacral vertebræ. The greatest length of the tumour from above downwards was nine centimetres, the greatest breadth four centimetres ; its lower end formed a sharply-defined arch around the upper margin of the third sacral vertebra. The tumour was felt to be firm and capable of little mobility. After incision of the connective tissue forming the capsule of the tumour, a neoplasm was exposed to sight devoid of vessels, and made up of a firm mass, the tissue of which under the microscope was found to be made up of thick connective-tissue fibrillæ enclosing small narrow nuclei. There was a general contraction of the pelvis, together with oblique distortion and slight flattening from before backwards.

"*Remarks.*—It was concluded, after a careful consideration of this tumour, that it had been developed gradually, and had existed long before the labour. Its very firm structure explains the fact, that during pregnancy and birth it felt like bone, and that it left a distinct

impression upon the head of the child. The contraction caused by this growth justified the plan of treatment that was carried out. The mark impressed by the tumour was found on the left side of the frontal bone: the broad occiput had, therefore, been forced on one side, and the narrow forehead had passed into the conjugate; but even this did not supply sufficient room. If delivery had been left unassisted a face-presentation would probably have been brought about, the child, during the useless pains, would have died, and the woman herself placed in a very unfavourable state, from which it would have been alone possible to remove her by a difficult perforation. By the Cæsarian section the child at least was preserved."

Art. 241.—*Objections to the Single-Curved Forceps, Short or Long.*

By Robert Barnes, M.D.

(*Medical Times and Gazette*, August 24, 1867.)

"1. One objection is in the introduction, others in the injuries likely to be inflicted on mother or child. To introduce the second or upper blade the handle must be much depressed, nearly at right angles with the mother's left thigh, which is placed upon her abdomen. Now, to do this, the patient's nates must be dragged over the edge of the bed. To procure and to maintain this position is often a matter of great difficulty and inconvenience.

"2. In extraction, the handles, nearly to the last moment, must be directed more backwards than is necessary with the double-curved forceps, and owing to the blades springing directly from the lock, the perineum is wedged open, and not seldom unavoidably torn. In some cases this injury may be avoided by taking off the blades before the greatest diameter of the head passes. But then the work is not always done, and you may have to put them on again. I may perhaps be told that to suffer the short forceps to tear the perineum implies want of skill; I reply that men of the highest skill and the largest experience with this instrument have confessed to me that this objection is a real one.

"3. The posterior or sacral blade is extremely apt to bruise by one of its edges the sciatic nerve.

"The effect is the crushing of some fibres, and more or less protracted paralysis of the leg.

"4. If the blade be applied as usually taught—*i.e.*, nearly in the transverse diameter of the head—an edge is very likely to press upon the portio-dura as it emerges from the temporal bone. The result is paralysis of the facial muscles, to which the branches are distributed—the child cannot shut the eye; it cannot suck. I have known a child die of starvation from this cause.

"From all these objections the long forceps I recommend is nearly altogether free."

Art. 242.—*Report of a Case of Retention in Utero of the greater portion of the Skeleton of a Dead Fœtus for a period of Four Years.*

By Dr. Halley.

(*The Lancet*, July 20, 1867.)

At a meeting of the Obstetrical Society of London, held on June 5th, Dr. Halley related the following case:—

Mrs. E. H., aged thirty-five, always in good general health up to the time of her marriage, six years ago, with the exception of suffering from some dysmenorrhœa and occasional leucorrhœa. Three months after marriage she miscarried, and suffered from more or less uterine hæmorrhage about every fortnight for four or five months afterwards. In November, 1860, she again became pregnant, and suffered from a constant discharge for six weeks; she quickened in March, 1861, and was delivered of a dead child in July. She became pregnant for the third time in May, 1862; quickened in August, and over-fatiguing herself at that time in the Exhibition, a discharge occurred which continued for about a month, when the membranes gave way, and fleshy masses and offensive discharges came away daily for two months more, bones occasionally passing. She now suffered for some two months from slight discharge, but had no return of the catamenia. The discharges were occasionally offensive, and sometimes portions of bones were passed; this at last ceasing for several months. In May, 1863, she consulted Dr. Churchill, of Dublin, who considered that she had probably passed all that had to pass; but in two or three months more a rib came away, with much offensive discharge, which continued up to the time of her coming under the author's care, in February, 1866. She had had slight shivering on one or two occasions before passing the bones, but otherwise her health had been good. On digital examination the uterus was found large, anteverted, with shortened neck; the os slightly open; the whole giving the idea that there was some abnormal substance within. On March 9th, Dr. Hall Davis saw her in consultation with Dr. Halley, and injected some warm water into the uterus, which, however, brought away only stringy shreds, with coagula of blood, and the conclusion arrived at was that without fully dilating the os nothing could be done. She subsequently returned home to the north of Ireland, and again consulted Dr. Churchill, who approved of the proposed plan of dilating the os and exploring the uterine cavity. She then came back to London to place herself under the care of Dr. Halley and Dr. Hall Davis. On May 10th, 1866, chloroform was administered, and a laminaria tent introduced and left in for twenty-four hours, a sponge tent being then substituted for twelve hours. The os being then tolerably open, Dr. Davis removed with a pair of long dressing forceps fifty-nine pieces of bone, the accompanying discharge being very offensive. On the following day twenty-seven additional pieces were removed, and one came away subsequently, making a total of eighty-seven. Each of the three manipu-

lations took from two to three hours, during which she was kept under chloroform. Since the operation she had gone on perfectly well in every particular, the discharge had ceased, and menstruation was regular.

Art. 243.—*Extra-Uterine Fœtation treated by Abdominal Section: Recovery.*

By J. Braxton Hicks, M.D.

(*Medical Times and Gazette*, August 3, 1867.)

The following was related by Dr. Hicks at a meeting of the Obstetrical Society of London, on June 5th :—

Mrs. C., aged thirty-five, had been amenorrhœic about four and a half months, when she was seized with acute peritonitis, the effects of which had somewhat subsided about a month after, when Dr. Hicks saw her. The examination of the abdomen was very difficult, owing to its tenderness, but she complained particularly of the region to the right of the umbilicus. At this part a tumour was felt which seemed to contain a solid mass within it. On a subsequent examination, a week after, this was more distinct, and it was evident on percussion that gas intervened between the parietes and the solid body within. A week after fluid had taken the place of the gas, and diarrhœa, with putrid evacuations, had occurred. Symptoms of irritative fever now became very urgent, and it was determined to remove the fœtus should examination under chloroform support the view which had from the first been entertained of its being a case of extra-uterine fœtation in communication with the intestines. Under chloroform the case was much more readily made out. The cyst could be clearly defined; it was about six inches in diameter, reaching from near the umbilicus to the right flank, and having its centre upon a level with the umbilicus. The most tender spot was fixed upon for incision, which was carefully made down to the peritoneum. This was found adherent to the cyst. It was carefully opened, and a quantity of offensive gas issued. On looking within, the fœtus was seen. The wound was then enlarged to the extent of two inches, guided by exploration of the finger, so as not to extend beyond the line of adhesion. The fœtus, much decomposed and putrid, about the size of four and a half months' development, was carefully removed by an ovum forceps. A few ribs had become detached, and were then removed. The placenta being adherent deeply and firmly, it was allowed to remain, to come away gradually. The cyst was then washed out with weak Condy's solution, and a wire suture capable of being unfastened was placed in the centre of the wound. The placenta came away in a state of decomposition in portions daily up to the end of the fifth day, by which time purulent took the place of putrid secretion. The cyst was washed out every day for a fortnight, when all fœtor ceased. A pad was placed on the exterior of the cyst, supported by a bandage, to facilitate the escape of the pus. By the end of five weeks the walls of the cyst had united, and by the end of seven

weeks the wound was closed. The health of the patient improved rapidly; the vomiting, very severe before the operation, ceased immediately; by the end of two months she was able to be about, and shortly after was in complete health. Dr. Hicks then alluded to the value of abdominal section where the cyst had formed communication with the intestine; at the same time remarking on the care which should be employed in making the opening through the parietes, lest it extend beyond the line of adhesion, for in a similar case in which he had operated it was found that the portion adherent was small compared with what might be expected after so great an amount of irritation. He thought that the best guide was to open at the point of greatest tenderness, and to extend under the guidance of the finger passed within. To prevent the peritoneum being opened, as well as to avoid hernia after recovery, it was advisable to make the opening as small as possible, removing the fœtus carefully, and, if necessary, piecemeal.

Art. 244.—*Cases and Remarks Illustrating the History of Pregnancy complicated with Small-pox.**

By Robert Barnes, M.D.

(*Medical Times and Gazette*, Aug. 3, 1867.)

In pursuance of a suggestion urged by the author to collect the experience of the Society relative to the complication of pregnancy with zymotic diseases, the present contribution was made. The histories of three cases were given. Amongst the questions raised were these :—What is the influence of small-pox upon pregnancy? In what way does small-pox excite labour? In the cases narrated, labour set in prematurely. The children were born alive. The poison, therefore, does not always act primarily upon the embryo. It is a law of very wide application that nature hardly tolerates the concurrent progress of an active disease and pregnancy. In zymotic disease, the poison, aggravated by the poison of impeded excretory function, acts upon the whole system, increasing the irritability of the nervous system, impeding nutrition, including that of the uterus, and directly irritating this muscle. Blood charged with carbonic acid was proved by Marshall Hall and Brown-Séquard to be especially provocative of contraction in the involuntary muscles. The author had observed that pregnant women suffering from asphyxia, chronic or acute, were certainly apt to abort. The blood in fever wants oxygenation, in this respect resembling the blood in asphyxia. This is probably the chief cause of premature labour. The author pointed to a difference between acute and chronic blood-poisoning. In acute disease, where respiration is impeded and the blood is rapidly poisoned, the first effect is upon the uterus. In chronic poisoning, as in secondary syphilis, the embryo may be first

* Abstract of a paper read at a meeting of the Obstetrical Society of London, on June 5th, 1867.

affected ; its nutrition is sapped, it perishes, and then uterine development being arrested, and involution commencing in a period varying from seven to twenty-one days, contraction sets in, and the dead fœtus is expelled. Premature labour might also be caused by the shock. To what extent is the life of the mother endangered? What is the influence of pure variola as compared with that of modified variola? The chief danger probably arises in the puerperal state. The mothers recovered in the cases narrated. What is the influence upon the fœtus as to infection? The practical question was discussed whether the safety of the mother and child be enhanced by inducing labour. The author was disposed to answer this affirmatively, and considered the best way was by the insertion of a flexible bougie into the uterus.

Art. 245.—*A New Expanding Speculum, and a Self-Holding Tenaculum.*

(*Medical Times and Gazette*, August 3, 1867.)

At a meeting of the Obstetrical Society of London, on June 5th, Mr. Robert Ellis exhibited a new expanding speculum for operations on the cervix uteri. He described the instrument as one of an entirely novel and original construction ; combining in itself all the various sizes of the ordinary specula, being capable of contraction to the smaller and of dilatation to far beyond the largest instruments in use. It was, he said, a bivalve speculum of the ordinary figure, and lighter, shorter, and handier to use than any of the present instruments. Its peculiarity consisted in an extraordinary capacity for dilating the external parts without injury, so as to give the surgeon complete command over the vaginal canal and the cervix and lower part of the uterus. This was effected by the separation of the blades by means of a rack and pinion, while at the same time there was the ordinary power of expansion at the distal end of the instrument possessed by common specula. The instrument was manufactured for the author by Messrs. Meyer and Meltzer, and had, Mr. Ellis said, in his hands proved most successful in a variety of difficult operations ; in its command over the vaginal canal, moreover, and in the full view of the cervix it afforded, it far surpassed the duck-bill speculum, while it dispensed with the need of an assistant.

Mr. Robert Ellis also exhibited a self-holding tenaculum, for operations on the uterus. This instrument the author described as setting one of the operator's hands quite free, and had been used by him for several years. It consisted of a double hook of a peculiar curve, mounted on a metal handle. In a slot up this handle a blunt hook, intended to catch over the edge of the speculum, moved to and fro by a milled screw at the bottom. The double hook was fastened into one of the lips of the cervix, and the blind hook in the handle was then screwed gently up and down until it had caught in the edge of the speculum. The cervix was thus held perfectly steady, and might even be drawn down some distance into the speculum if the screw were carefully and gently worked, without the least injury or pain. For almost

every surgical operation on the cervix the author considered this little instrument quite invaluable.

Art. 246.—*Delivery, with extensive Adhesion of the External Genitals.*

By P. Müller, of Würzburg.

(*Würzb. Med. Ztschr.*, vii. 1866 ; *Schmidt's Jahrbücher*, No. 3, 1867.)

Müller having been called to a woman, twenty-six years of age, who had been married for one year and a half, found that labour pains had commenced twenty hours before, and that fourteen hours previously a small quantity of liquor amnii had flowed away. The woman had always been healthy, and menstruated for the first time at the age of sixteen. She believed that she had not passed the seventh month of pregnancy, but an external examination proved that the period must have arrived at its normal end, since the fundus uteri was situated 4 mm. below the ensiform appendix of the sternum; the child could be felt indistinctly above and on the left side, and the heart sounds could be heard clearly to the right of the centre of the abdomen. An examination was first made under the bed-clothes, but as this revealed the presence of considerable abnormality of the external organs of generation, ocular inspection was resorted to. By this there was presented a total deficiency of the labia pudendi and vulva, and in the place of these a smooth cutaneous surface uncovered with hair, which was 2 mm. in breadth, and reached from the anal orifice as far as the symphysis pubis; in the centre of this a spongy body projected, which was made out to be a nympha, and could easily be pressed back; it presented on its surface a round orifice, surrounded by unyielding margins, and hardly as large as a groschen piece; into this opening the last joint of the finger only could be passed with difficulty. By introducing the finger through the anus, which was larger than a florin, the presented head of the child was felt distinctly through the stretched anterior part of the rectum. The accession of violent pains necessitated speedy action. Whilst the midwife supported forcibly the perineal and anal regions, Müller introduced a blunt-pointed bistoury into the existing genital orifice, and incised the occluding membrane upwards and downwards, after which the head of the child pressed upon the slit thus formed. On account of the very unyielding nature of the margins, the passage of the head was still impossible; two fresh cuts were therefore made with the scissors, which extended in an oblique direction from the lower end of the wound to the ischial tuberosities, and were at distances of $\frac{3}{4}$ mm. from the rectum; the hæmorrhage was considerable. The delivery, after this, was concluded without difficulty, and the child, which was maturely developed, lived.

On a close examination of the genitals, it was now found that the occlusion had not been limited to the superficial parts, but had involved those deeply seated. No traces of the labia majora could be perceived, nor of the right nympha; the left one remained, and supported the mis-

placed and contracted vaginal orifice, of the clitoris and hymen likewise nothing could be seen. The edges of the two lateral incisions were brought together by five points of suture, and into the new genital opening a sponge was inserted, in order to prevent a repetition of the adhesions. The period of lying-in passed without interruption; in three weeks the cicatrization of the edges of the vaginal cleft was almost completed, and a groove was formed between $1\frac{1}{2}$ mm. and 2 mm. in length.

Observations.—The malformation in this case is without doubt to be regarded as an acquired lesion. Obliterations of the vulva occur, are either complete, atresiæ, or incomplete, occlusions; the former are always congenital, the latter, on the other hand, may be congenital or acquired. The congenital occlusions or stenoses separate into two groups, the first of which constitutes a form of the so-called hermaphroditismus lateralis muliebris, where the stenosis causes the appearance of a persistent urogenital canal; whilst in the second form, with a perfectly developed sexual habit and normal formation of the internal organs of generation, incomplete occlusion is caused by an extension of the perineum, or rather by an enlarged and thickened membrane, passing between the labia and closing the rima pudendi. Stenosis, in the great majority of instances, is acquired in an advanced period of life, and after inflammatory processes. In the reported case, it was made out that the patient when three years of age had been laid up for several weeks with fever, which affection was complicated with an eruption of and a discharge from the genitals; at a later period a practitioner broke down the resulting adhesions, but the opening made by him soon contracted. Similar adhesions are not unfrequently formed in infancy, for at this period of life erythema, excoriations, and deep-seated inflammation, resulting from inattention to cleanliness, the action of decomposing urine and fæculent matter, dispose very much to the formation of these forms of occlusion. If the adhesions be merely superficial, of the so-called ephithelial character, and not marked by cicatrices or fibrous cords, it may frequently be considered as a congenital affection; the raphe in the middle pronounces just as little for a malformation, as the absence of the same against an acquired atresia.

A particularly interesting point in the present case is the fact that, notwithstanding such extensive adhesion, conception was practicable. Introduction of the penis could not be spoken of in this case, for the opening was not large enough to admit the finger, and moreover it was displaced upon the existing rudiment of the nympha, which was pressed forward by the stenosis. Hence the semen must have been ejaculated through the outer opening, and to account for the occurrence of conception one must rely almost entirely upon the fact of the automatic movements of the spermatozoa, for no other method of progression along a canal formed of rigid non-contractile cicatrical tissue is conceivable. This case might be adduced to prove that even with a normal formation of the genitals, the essential condition of the inward passage of the semen is to be sought for in the power of its cells to perform lively and rapid movements; the second and accessory element is the contractile power of the vagina, uterus, and Fallopian tubes, and also the ciliary movement of the ephithelial cells lining the inner surface of

the two last organs. This case is also an important one from a medico-legal point of view, since it shows that in cases where pregnancy exists with a virgin condition of the external genitals, the assertion that there has been no introduction of the penis, but only an ejaculation of the semen into the genitals, cannot be treated merely as an *à priori* supposition.

Parturition occurring in such a case, will, without artificial assistance, produce most serious consequences for the woman. The contractions of the uterus press down the head, and this organ, when the natural outlet is fast closed, being moved from the direct line to the pelvic and genital outlets and placed in the direction of the diagonal of the forces working upon it, will, by lacerating the posterior wall of the vagina, the anterior wall of the rectum, the sphincter ani and the hinder part of the perineum, force its way out, and thus produce an extensive cloaca. The plan of treatment is clearly indicated; the head should be moved from its false position by firm pressure applied upon the region of the anus, and in the next place an outlet should be made in the normal situation. A single vertical slit alone may not be sufficient, for the surrounding tissue is not so extensible as the normal vulva. For this reason, it is necessary to make lateral extensions *of the first incision.*

Art. 247.—*Two Cases of Rupture of the Uterus.*

By Drs. Scharlau and Kaufmann.

(*Monatsschr. f. Geburtsk.*, 1867; *Schmidt's Jahrbücher*, 1867.)

Case 1.—*Spontaneous Rupture of the Uterus.*—(Scharlau.)

"*General and oblique contraction of pelvis. Passage of the child into the peritoneal cavity, with the exception of the head, which remained stationary in the pelvic outlet. Cephalotripsy: Turning: Extraction.*

"The patient was twenty-four years of age, and in labour with her second child; she had been rachitic in infancy, and in the year 1863 had been, after a long labour, delivered of a dead child by the forceps. The os uteri, by reason of the weak action of the pains, remained undilated for a long time, and the movements of the child ceased long before the application of the forceps; extraction was performed with difficulty, and directly after delivery the accoucheur felt a large slit in the posterior lip of the os uteri. Diphtheria of the vagina, endometritis, and peritonitis attacked the woman during her lying-in, but she had recovered at the end of three weeks. About two months later, she suffered from pain in the abdomen, the cause of which was proved by examination to be due to retained menses; the vagina was then found to be closed up by a round fluctuating swelling, which, on being punctured, presented a small cavity. By inserting a uterine sound into this cavity, a black tarry fluid was brought away, and the obstruction of the os uteri removed.

The course of the second pregnancy was regular. On September 4th,

1866, the pains commenced, and from the evening of the 8th to the morning of the 9th were very violent. At 3·30 on the morning of the 9th, after severe agony, the labour-pains suddenly ceased, and the head of the child, which up to that time had been well pressed down, was again withdrawn. The extremities became cold, and the face expressive of exhaustion. In the umbilical region could be felt externally a round body, surrounded by a ring of tympanitic intestine, and above this, close under the anterior wall of the abdomen, the parts of the child. There was a constant flow of blood from the genitals, and at the pelvic outlet the head could be felt moveable, and in the second position.

Since there was an undoubted laceration of the uterus, and speedy delivery was indicated, Scharlau applied the cephalotribe to the head of the child; the instrument, however, slipped twice, and version was then performed. He introduced his hand and passed it through a large opening into the peritoneal cavity. Keeping close to the body of the child, he came upon a foot close to the region of the woman's stomach, and version was then performed slowly and cautiously. The buttocks were then extracted and the arms relieved. Before extraction could be completed, it was necessary to compress the head with the cephalotribe. The placenta followed after gentle traction upon the umbilical cord. The bleeding was not excessive, the uterus contracted favourably, and the lips of the laceration, as far as could be felt, came closely together. The child was a female, and weighed six pounds ten ounces.

The after-treatment consisted in the application of an ice-bag over the abdomen, the passing of a catheter three times every day, and keeping the patient perfectly quiet. For the first two days the general health remained very good, the pain was quite trifling. There was occasional vomiting of a greenish matter, which was treated at first by small doses of opium, and afterwards with success by the subcutaneous injection of morphia over the epigastric region. On the third day also the general health was favourable, the uterus had contracted, the lochia sanious, the sensorium unimpaired, painfulness and meteorismus slight; temperature moderately high. Pulse, 100. After a rigor, the patient died suddenly on the morning of the fourth day at half-past three, having been somewhat delirious.

At the *post-mortem* examination the intestines were found joined to each other and to the uterus by blood-clots. There was no injection or exudation of the abdominal walls; in the pouch of Douglas there was about half a pint of fresh coagulated blood. The rent involved principally the neck of the uterus, the outer os and the vagina being intact. It coursed obliquely from above on the left side downwards, and to the right. Along one part of its extent the peritoneum was completely divided, but along a short distance it was covered over by this membrane, which was raised from its attachments, but not divided. The whole length of the rent was thirteen centimetres; along eight centimetres there was complete penetration of the tissues. The muscular tissue of the uterus was in a fatty condition. The thinness of the walls of the cervical portion of the uterus was not out of proportion to that of the tissue of the body of the organ.

In addition to a general contraction of the pelvis there was a remarkable arrest to the development in the parts on the left side; the os puba was pushed over somewhat to the right, so that the pelvis was obliquely contracted. The left was only 2·9 centimetres broad, the right one being 3·8 centimetres; the crest of the left ilium was 13·9 centimetres in length, that of the right ilium 14·9 centimetres. The linea alba on the left side was shorter than the one on the right. The pelvic outlet measured:—

Real conjugate	8·5	centimetres.
Transverse diameter	12·6	„
Left oblique „	11·8	„
Right „ „	11·	„
Right sacro-cotyloid distance .	8·5	„
Left „ „ .	7·3	„

Scharlau thinks that the rupture was caused partially by the fatty degeneration of the uterine tissue, but chiefly by the long-continued squeezing of the cervical portion of the womb caused by the violently expulsive nature of the pains.

Case 2.—*Laceration of the Uterus after removal of the Placenta.* (Kaufmann.)

A healthy, strong multipara, with a normal pelvis, was delivered without difficulty of a healthy child. As profuse bleeding came on in consequence of retained placenta, the midwife removed this organ. Immediately after the removal of the after-birth the symptoms of ruptured uterus were presented, and the patient died on the third day. At the *post-mortem* examination, a rent four mm. in length was found in the posterior walls of the womb.

Art. 248.—*The Forceps.*

By Robert Barnes, M.D.

(*Medical Times and Gazette, July* 13, 1867.)

"There are several excellent models. The best are Simpson's and Robertson's. The essential conditions to be contended for:—That the blades have a moderate pelvic curve; a head curve also moderate; an extreme divergence between the fenestræ of three inches; the length of the arc of the cranial bow of about seven inches, to adapt it to the elongation of the fœtal head during protracted labour. There should be between the springing of the bows and the lock a straight shank to lie parallel with its fellow, to carry the lock clear of the vulva and save the perineum. In my forceps the shank is further lengthened by a semicircular bow, which forms a ring with its fellow when locked. The use of this is to give a hold with the finger of one hand whilst the other grasps the handles. In Simpson's instrument there is a hollowed shoulder at the head of each handle which answers a similar purpose,

and perhaps better. The lock should be easy—a little loose. The English lock is not, I think, surpassed for convenience; but the French lock is a good one. The handles should not be less than five inches long. They should afford a good grasp. Unless they are strong and of fair length, they cannot exert any compressive force for want of leverage, for the fulcrum is at the lock. I think all forceps that have very short handles, especially if not provided with some means, such as the ring or projecting shoulders, which will enable the operator to use both hands, ought to be rejected. A two-handed instrument can be worked with the utmost nicety and economy of muscular force. A single-handed instrument is necessarily a weak one. The absurd dread of possessing powerful instruments has long been the bugbear of English midwifery. It has been sought to make an instrument safe by making it weak. There can be no greater fallacy. In the first place, a weak instrument is, by the mere fact of its weakness, restricted to a very limited class of cases. In the second place, if the instrument is weak, it calls for more muscular force on the part of the operator. Now, it is sometimes necessary to keep up a considerable degree of force for some time, and not seldom in a constrained position. Fatigue follows; the operator's muscles become unsteady; the hand loses its delicacy of diagnostic touch, and that exactly balanced control over its movements which it is all-important to preserve. Under these circumstances he is apt to come to a premature conclusion that he has used all the force that is justifiable—that the case is not fitted for the forceps, —and takes up the horrid perforator; or he runs the risk of doing that mischief to avoid which his forceps was made weak. The faculty of accurate graduation of power depends upon having a reserve of power. Violence is the result of struggling feebleness, not of conscious power. Moderation must emanate from the will of the operator, it must not be looked for in the imperfection of his instruments. The true use of a two-handed forceps is to enable one hand to assist, to relieve, to steady the other. By alternate action the hands get rest, the muscles preserve their tone and the accurate sense of resistance which tells him the minimum degree of force that is necessary, and warns him when to desist. A similar reasoning applies to the perforator and the craniotomy forceps."

Art. 249.—*On the Induction of Premature Labour by the Douche.*

By Thomas Telford, M.D., L.R.C.S.I., Ex-Assistant Physician, Rotunda Hospital.

(*Medical Press and Circular*, November 27, 1867.)

Rupturing the membranes, Dr. Telford says, is very uncertain in its action. He has frequently seen women come into hospital hardly in labour, though the membranes had been ruptured some days before admission. Early rupture of the membranes predisposes to a rigid condition of the soft parts, adding a new difficulty to the case; the sepa-

rating the membranes, or passing a catheter between the membranes and uterus, unless done with great care, is likely to rupture the bag of waters, and is therefore open to the same objection. Of Dr. Barnes' dilator, Dr. Telford has no experience. The administration of ergot, he is confident, is not efficacious in producing labour, as, from a series of experiments he made under the direction of Dr. Denham, master of the hospital, for the purpose of testing the toxic effects of ergot on the fœtus, they found that ergot administered to a woman seven or eight months pregnant neither induced labour, nor exerted any deleterious effect on the child.

The application of the douche is extremely simple; it is best done by placing the patient in the usual obstetric position, with the hips drawn well over the edge of the bed; by passing a full-sized Ferguson's speculum, the os is brought into view, the nozzle of an ordinary syphon syringe is then inserted into the os, and a continuous stream of water injected into the cavity of the uterus. On the withdrawal of the syringe, the water pours out of the uterus in a full stream; this may again be repeated a couple of times; one such application will generally induce labour within twenty-four hours. Before using the syringe care must be taken that it is filled with water, so as to exclude the admission of any air into the uterine sinuses. Some physicians advise the alternate use of hot and cold water; this Dr. Telford thinks a matter of unimportance; tepid water is the most agreeable to the patient, and should therefore be used; otherwise, as the action of the water is altogether mechanical, it is immaterial whether we use hot or cold. The action of the water closely resembles the action of the uterus, by gradually separating the membranes around the os and cervix uteri.*

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 250.—*Obstinate Vomiting caused by the Presence of a Foreign Body in the Uterus.*

By JAMES BLAKE, M.D.

(*Pacific Medical and Surgical Journal*, and *New York Med. Journ.*, July.)

Dr. Blake narrates the case of a lady, twenty-two years of age, in whom vomiting began immediately after an application of some kind had been made to the uterine cavity. The surgeon attending her reintroduced the speculum after it had once been withdrawn, in order, as he stated, to remove a piece of cotton which he had left in the womb. Dr. Blake saw her three days subsequently, and during this time the vomiting had been persistent, and the stomach was intolerant even of minute quantities of ice or cold water. Medication controlled the vomiting only for very brief intervals, and the patient's strength was

* Three cases are brought forward in order to show the facility and rapidity with which premature labour can be induced.

being rapidly exhausted. Nutritive and opiate enemata were used. On the second day of Dr. Blake's attendance, a vaginal examination was made in the expectation of discovering some foreign substance, but none was found. The neck of the uterus was engorged and inflamed, and the os patulous and the body retroverted and flexed. The following day menstruation came on, and the vomiting was not quite so constant, but nothing could be retained on the stomach. The patient was kept alive for three days on brandy, champagne, and the nutritive enemata. At the end of this time, which was nearly coincident with the cessation of the catamenia, the stomach became tolerant of food, and the patient gradually recovered. Three weeks subsequently another vaginal examination was made, and a piece of cotton (such as used for applying caustic to the interior of the cervix) was found in the vagina. Dr. Blake attributes the vomiting entirely to the presence of this foreign body, and remarks that the case would tend to show that the vomiting of pregnancy is due merely to the mechanical irritation produced by the fœtus, and not to any changes in the uterine system accompanying pregnancy.

Art. 251.—*On some of the Diseases of the Female Urethra and Bladder.*

By J. Braxton Hicks, M.D., F.R.S., Co-Lecturer on Midwifery and Physician-Accoucheur at Guy's Hospital; Examiner in Midwifery at the University of London.

(*The Lancet*, Oct. 12, 19, and 26, 1867.)

"Diseases of the bladder and urethra," Dr. Hicks says, "are not so much under the influence of internal remedies as they are of topical. Not but that much can be done by opiates, rest in the horizontal posture, and avoidance of certain beverages and the correction of any condition of the system which may give rise to irritating urine. But, on the whole, local treatment in the severe forms is much more effective, though in some works treating of this subject you will find that the local remedies are considered too painful to admit of being used, or else they are in great measure passed by, so that the class of cases under consideration has been not so prolific of laurels as many others.

"In bringing before you some of the diseases of the female urinary organs, I shall begin from without, and follow the passages inwards to the bladder.

"*Vascular growths at meatus urinarius.*—And first I shall call your attention to those generally extremely sensitive red outgrowths of membrane of the meatus urinarius, called vascular growths.

"You will find them readily, on separating the labia, by their bright red appearance at the meatus, either in the form of a minute polypus, or as a broad-based elevation of the mucous membrane, partly or wholly surrounding it, or passing some distance within. If you touch this, even as lightly as possible, in the majority of cases the patient will

suffer the most acute pain; while in some few there will be no very great suffering. The difference depends, I believe, upon whether the sensitive papillæ (Pacchionian bodies) are enlarged or not. The growth in all cases is hypertrophy of the mucous membrane. In some the growth of vascular element is in excess; in some (the majority), the nerve-tissue; in others, the basement layer. Now, in those which are most sensitive you can without difficulty find the Pacchionian bodies hypertrophied, and very distinct. If they are removed by the snare, they will be found beautifully injected.

"You will easily understand that, if these growths are so sensitive, much suffering is complained of during walking, coitus, micturition, &c. But, generally speaking, the patient very seldom is able distinctly to explain the seat of the distress. Sometimes the pain from micturition continues, setting up a forcing and bearing down, with a distress about the vulva; but, as a rule, the distress is not at first referred to the 'water-passage.' You must not, therefore, expect to be assisted much by the patient herself in the diagnosis. In such cases it is better to examine by sight, where you have any pain and difficulty attending micturition. Perhaps the most marked sign pointing to the urethra which the patient volunteers is, that after the completion of micturition a drop of blood follows; but in many cases this symptom does not occur. When it does, it is important to ascertain whether the blood really comes from the urethra, or from the uterus; because straining in micturition will sometimes cause a small, and indeed often a large quantity of blood to flow from a malignant os uteri. The indefiniteness of the patient's description as to the seat of trouble was well illustrated in a young woman, of sedentary habits, who had for two years complained of uneasiness in the genitals. She could scarcely describe its nature, or where exactly it was, except that it was in front, and that when she leaned forward it hurt her. As I could make out nothing more from her description, I examined, and found one of these vascular growths at the meatus. It being of a polypus form, I removed it with a wire noose. She called two weeks afterwards to say she had entirely lost the annoyance, and I heard afterwards she had no return of it.

"As an instance of the vagueness and distress to which these growths may indirectly give rise, I may instance the case of a woman about sixty, who came to me complaining of incessant desire to micturate; severe straining; urine highly loaded with pus and mucus. To add to this, she had recently taken spirits of turpentine with a view to cure, and this doubtless had much increased her troubles. However, she told me she had very intense pain upon connexion, for her husband still retained much vigour. This, of course, required examination, when I found that she had a large and unusually sensitive vascular growth at the meatus. This in a day or two I removed, directly after which she began to lose the above-named symptoms, which in the course of two weeks had passed off, the urine recovering its natural condition. In this case a great amount of the distress was occasioned by reflex irritation, at first set up by the growth, but which she herself had increased.

"The treatment of these cases is simple. Where the growth is of

the polypus kind, it is best removed by a wire snare—as, for instance, by one which I have described in the *Obstetric Transactions*, vol. iii. p. 346. Under these circumstances I have found the most ready mode is that of dividing with the wire noose. Of course we may employ the galvano-cautery; but this apparatus is rather more troublesome to prepare. As a rule, after removal, I prefer touching the part with a caustic, such as nitric acid, in the manner described below for the broader-based forms. Little or no bleeding ensues; that which does occur is readily staunched by pressure. In the more sessile forms, I prefer the use of nitric acid, as a convenient agent, in the following manner:—Take a piece of soft wood, such as deal; nothing is more at command than a lucifer-match. After cutting off the inflammable part, and rounding off the corners, this is dipped in nitric acid, and the superfluous quantities allowed to drain off, so that the wood should be only saturated with it. It can be then applied to the growth without any fear of its running over the parts not affected. Nitrate of silver is not to be relied on to destroy the base of the growth. Either the galvano-cautery or nitric acid may be used, so far as I have found, with the greatest amount of certainty.

"Now these growths have a decided tendency to return, particularly if the growth has not been thoroughly destroyed or removed in some manner. Therefore, in any case, it would be well not to promise a radical cure too decidedly. I have seen a girl in whom the whole meatus was surrounded by a growth of considerable exuberance, and in whom the disease returned three times, which was, however, ultimately cured. These cases are certainly not malignant, but are rather to be considered as nævoid. I may remark, in conclusion, that the intensity of the pain bears no relation to the size of the growth; but the very smallest sometimes produces as severe, if not severer, suffering as others many times larger.

"*Stricture of the urethra* is the next morbid condition to which I wish to direct your attention. It has been described as very rare; perhaps the superlative should be omitted. I have seen many cases of distinct stricture of the urethra. The seat of stricture was near the meatus, and in two appeared to have been the result of some injury or application to the urethra. In all, the symptoms were, as might be supposed, frequent desire to micturate, attended with great difficulty and forcing; a general feeling of bearing-down, referred by some to the uterus. The cause of all this was readily detected by examination per vaginam; no disease was found in the urethro-vaginal septum, nor at the meatus. The catheter being passed, great obstruction was experienced; indeed, in one only a small conical bougie could be introduced through the stricture. The treatment in these cases was very effectual and permanent—by dilatation by conical bougies, requiring only a few passages of the instrument. It is possible to suppose a more obstinate form of stricture than these—as cicatrices—as the result of injury to the part; but I think it would not be difficult to cure them, like those in the vagina, by stellately scoring with a straight probe-pointed bistoury, and gentle dilatation afterwards. As a rule, we may say that simple strictures of the urethra are not difficult of cure.

"*Urethritis* may arise from the irritation of acrid urine, highly

charged either with lithates or with ammonia; but the most common of its causes are gonorrhœa and parturition. Sometimes the frequent passage of healthy urine alone, as in irritable bladder, will produce urethritis. The treatment in the acute form must depend upon the cause, and upon the associated states of vagina, &c. It will be treated in combination with them, by warm, soothing vaginal injections, and by rendering the urine as bland as possible. Where it is the result of delivery, these plans are more particularly to be zealously employed; and should there be retention of urine also, it will be our duty to pass the catheter, notwithstanding the pain it may cause, otherwise we may have a worse malady as the consequence. I need hardly observe that the use of opiates by the mouth is of great value in these cases.

"In the chronic form, the disease is as completely under our control as any disease we have to attack. We may employ either astringent solutions, such as alum, or sulphate of zinc solution, or even one of nitrate of silver; but I think you will prefer the use of these remedies in the more solid form. Nitrate of silver is very efficient, but rather painful; cast into small sticks, and introduced into the porte-caustique, it can be applied for a short or long period to the whole of the urethra, according as is desirable. It will be generally found sufficient to merely apply it on the withdrawal of the instrument. The most convenient form of porte-caustique is one I use also for the canal of the cervix uteri—a silver tube, having a small caustic-holder on the end of a stillet sliding easily within. It is so constructed that the nitrate can only protrude a very short distance beyond the open end of the tube. The tube is passed up, the nitrate being drawn within. As the tube is drawn out, the nitrate is pushed out, and thus the mucous membrane is touched lightly throughout. This mode is efficacious, but, at the same time, there is more immediate pain than with some other preparations; this, however, soon passes off, and in a day or two much relief is obtained. The application should be repeated for about a week, and a third time at the same interval if required.

"Perhaps as efficient as any is the use of bougies covered with tannic acid. The best plan is to cover a medium-sized gum-elastic bougie with gum-water, and then to dip it into powdered tannic acid. The superfluous quantity is then shaken off, and the film allowed to dry. Before using it, pass it gently through the fingers to remove any roughness that may be present; then dip it into gum-water and pass it up the urethra, and leave it in ten or fifteen minutes. This may be repeated once a week. There is but little irritation generally; perhaps the next day some slight increase; but by three or four days the former irritation has much subsided, and then two or three applications at intervals of a week are sufficient to complete the cure.

"Sulphate of zinc cast in sticks, such as you have seen me employ in cases of cervical leucorrhœa, may be used by simply passing the stick up the urethra, or as nitrate of silver in the porte-caustique, as above.

"There is, indeed, more difficulty in the detection of the ailment than in its treatment, so ambiguous are the phraseology and the ideas of many patients with regard to diseases of these parts.

"You will occasionally see in elderly persons a violent attack of

irritability of the urethra, suddenly induced. There is a slight irritation of the urethra as a constant element, but at periods, once or twice a day, a severe irritability comes on in the urethra after passing urine, which gives great annoyance and reflex irritation, with constant desire to micturate. At that time of life you will find a want of control over the semi-involuntary actions of the body; and in this instance, once a forcing and bearing down having been engendered, the patient seems to lose self-control, and, in the tenesmus which accompanies it, confuses in her mind the various symptoms—in fact, she declares herself unable to explain exactly her ailment. You can, however, gain some clue by beginning at the beginning, and making her recall to mind the early symptoms.

"These symptoms of tenesmus arising from simple causes to a considerable extent resemble those of *polypus of the urethra*, particularly where the growth is situated at the neck of the bladder, in which position it occasionally is carried by the urinary current into the urethra, causing severe annoyance by dysuria, forcing, and generally some appearance of blood. As a rule, it may be said that bleeding in small quantities generally accompanies urethral polypus, not mixed with the urine, but commonly following it. You will see that here, again, the symptoms are very like those of calculus, especially a recent one and of small size. But the passage of a catheter or sound, coupled with digital examination in the vagina, will prove whether or no there be a calculus in the urethra or bladder; because a stone in the female bladder can almost always be detected per vaginam, at least the existence of a solid within it will be shown, while the catheter will tell you if that body be hard, like a calculus, or softer, as an outgrowth. These polypi, however, are so soft that the touch by the catheter cannot detect them. It will be necessary, when these symptoms exist, that we, after a trial of the tannic-acid bougie or other styptics has been made without result, dilate the urethra under chloroform, and examine carefully by the finger, and even with the eye, whether any polypus or outgrowth exist; in which case its removal by a wire snare, or torsion by forceps, or even by the finger-nail if it have a very thin pedicle, should be done at the time.

"And this brings me to remark that incipient *epithelioma* of the mucous membrane of the urethra may produce bleeding, pain, and other symptoms of simple urethritis. If it be near the neck of the bladder, then we shall have that organ in a state of irritation more or less, with an extrusion of blood following the flow of urine. Now, the diagnosis of epithelioma of urethra from urethritis is difficult, except that bleeding is rare in the latter. In polypus, where we may expect bleeding, the distress is more apt to become paroxysmal; where we have a moderate amount only of distress, with a considerable quantity of bleeding, we may suspect rather an epitheliomatous condition.

"However, it is best in such a case to place the patient under chloroform, dilate the urethra, and pass up the finger, when irregularity of the mucous surface can be readily detected. Of course I am here alluding to incipient stages of epithelioma, for in the advanced state it is readily deciphered by vaginal examination of the urethra and bladder. It is by no means difficult immediately to dilate the urethra under chloroform, as has been shown by the removal of large calculi.

"It has been shown by Mr. Bryant, in the *Medico-Chirurgical Transactions* for 1864, that the urethra can be dilated rapidly, without any fear of incontinence after, even where the urethra has been distended to withdraw a stone two inches in diameter. We need not, therefore, fear that the introduction of the finger would lead to any troublesome result.

"Ulceration of a syphilitic kind, running up the urethra into the bladder, causing very great distress, is occasionally seen. A patient was admitted into Guy's Hospital with a calamity of this kind. Urine was constantly running away from extreme irritability of the bladder, with severe scalding pain on passing it. The vagino-urethral septum was eroded from the meatus urinarius to half way to the bladder, and the mucous membrane of the urethra was abraded, readily bleeding on passing the catheter. She was emaciated from constant irritation and want of rest. I first of all applied nitrate of silver to the urethra, which was soon cured of its irritable state. This having been accomplished, one grain of morphia in solution, in the manner to be pointed out hereafter, was thrown into the bladder once a day. This produced speedy relief of the principal symptoms, and she was generally able to hold her urine for two hours; sometimes she could not for longer than an hour.

"*Cystitis.*—We come now to a much more painful and serious disease—namely, cystitis. Its causes are various: gonorrhœa, from extension of the inflammation along the mucous membrane; ordinary vaginitis, though rarely; calculus or foreign body introduced from without, such as fœtal bones in extra-uterine pregnancy; irritating secretions, as highly charged urine, whether ammoniacal or acid; pus from the kidney, or from openings into its cavity by abscesses, as in peri-metritic suppuration; retention of urine from any cause, as misplaced uterus; and lastly, though by no means infrequent nor of least interest to the obstetrician, the process of parturition. This latter affects it in three ways principally: 1stly, by retention of urine during labour; 2ndly, by actual pressure on it during that process; 3rdly, by producing retention afterwards. These are the chief causes of cystitis.

"Like other diseases, we have the acute form and the chronic; and these vary in severity, and in the amount of constitutional disturbances accompanying them. With all we have a constant symptom—namely, frequent desire to empty the bladder; the frequency, depending upon the severity of the disease, affording a tolerably fair criterion of its intensity. The pain during and after the act, when the walls of the bladder fall together, is sometimes of the most intense character, attended by a semi-convulsive tremor, and an extension of the irritation of the bladder to the other pelvic viscera, whereby such a general forcing or bearing down is produced that the patient scarcely quits the chamber utensil. When the organ again begins to fill, the distress is equally great, but rather more of pain than forcing, so that the patient has but little respite from agony.

"You will, of course, find a considerable quantity of mucus in the urine; and if the disease is of a few days' standing, there will be pus, greater or less, according to the intensity of the disease. The

presence of blood is by no means constant, but you will occasionally find it.

"The urine under these circumstances will become ammoniacal, and that generally early in the complaint; and if the bladder be not wholly evacuated, the contents assume a putrid odour. In the severest cases the whole urine will appear like a quantity of pus, smelling most strongly of ammonia, with putrid odour. If it is allowed to stand, there will always be found some tenacious mucus at the bottom, holding crystals of the triple phosphate and amorphous carbonate of lime, effervescing strongly on the addition of any acid. If micturition is very frequent, the urethra and vulva become very irritated, tender, and excoriated, adding still further to the distress of the patient. These symptoms, combined with pain over the pubes, much increased by pressure, and general pelvic distress, will lead you to the conclusion that inflammation of the mucous membrane of the bladder exists.

"If these symptoms succeed an attack of acute vaginitis, then it is to be considered that cystitis has originated in this complaint. Whether it be specific or not it is impossible to say; but when the attack is very sudden, and attended with a very large quantity of yellow discharge, the inference is in favour of its specific origin.

"If there has been evidence of peri-metritic cellulitis, with a suspicion of suppuration, as shown by severe persistent throbbing pain and pyrexia with swelling, and an attack of acute cystitis supervene, then it is that we may suspect that a communication is about to be established between the swelling and the bladder; and that it has taken place will be made certain by a sudden increase of the quantity of pus in the urine, and a subsidence of the local pain.

"If a tumour of any sort existing in the neighbourhood of the bladder, as extra-uterine fœtation, ovarian, &c., become tender and painful towards the bladder, and if afterwards symptoms of cystitis arise, then we may expect a communication with the bladder to have commenced, and we should look carefully in the urine to ascertain whether any unusual characters are present.

"If the complaint be of some standing, or have supervened suddenly after pain in the flanks and loins, then we may suspect the presence of a calculus or of highly gritty urine. The former can be detected by a catheter or sound; the latter by ocular inspection.

"Again, if these symptoms succeed immediately after labour, without any real retention, then it may be presumed that the urine was retained over-long during labour, or that the bladder was severely pressed upon during the passage of the head; the former may be known not to have been the case if the attendant had drawn off the water during labour. Should the vagina be sloughy also, we may suspect injury by pressure; but if the urine passes through the vagina, then it is clear that sloughing of the posterior wall of the bladder has taken place, and that a fistula has ensued. But if retention of urine after labour have occurred, and if the urine have not been drawn off within a reasonable time, and cystitis follow, then it is highly probable that the irritating effects of the urine and distension of the bladder have given rise to this calamity. Of course there may be a bladder already irritated

by labour; but the retention of urine for over twenty-four hours in the bladder might either produce cystitis or exacerbate a slight amount of the disease into a severe form.

"Now, retention of urine after labour is itself caused not infrequently by a swelling of the urethra from head-pressure. Doubtless, at times the bladder is semi-paralysed, and unable completely to evacuate its contents, so that a portion is always left behind, facilitating decomposition of the urine. But I believe that by far the commonest cause is the swollen and tender urethra and neck of the bladder, which prevents the exit of the renal secretion. One of the old rules in midwifery tended very much to cause this trouble, for it was insisted that the catheter should not be passed before everything possible had been done to make the patient pass urine naturally; because, it was said, if the catheter once began to be used the patient would for a longer or shorter time require it. But, though this is an excellent rule in some cases of single hysterical girls, yet carried to the extreme, such as I have seen and heard of, it is productive of serious injury. For two cases have recently been described, where unassisted retention for thirty-six hours was followed by complete separation of the coat of the bladder, and, as you may judge, the life of the patient placed in very great jeopardy.

"I would wish to impress upon you particularly that if the patient wishes to pass urine and cannot, whether it be eight, twelve, or eighteen hours after labour, it is best to draw it off. Indeed, after labour of any kind is over it is well to see if the bladder contain any urine, and, should it do so, to pass a catheter. And here you must be cautioned against a deception. The urine may flow even freely, and yet a large quantity be retained, which, decomposing speedily, shortly produces cystitis.

"Frequently the intermittent pains of the contraction of the bladder are mistaken for after-pains.

"In the acute forms we find, of course, considerable constitutional irritation, which becomes much less as the disease assumes the chronic stage. In the less acute there is but little pus; the mucus is sometimes ropy, sometimes merely flocculent. There is a frequent desire to pass urine, which is the symptom usually complained of; a sudden desire to micturate, much pain if resisted; and a prolonged forcing afterwards.

"It has occurred to me to see two cases of acute cystitis set up by vesical vicarious menstruation. In these the diagnosis was not difficult, because there was in one irregularity, and in the other absence of menses, the bleeding from the bladder occurring at the proper menstrual periods. It was attended with severe suffering, which scarcely had subsided till the next attack; indeed in one it gradually assumed the chronic phase, requiring local treatment, although the menstrual flow had returned to its natural channel.

"Thus I have endeavoured to bring before you the principal features of this complaint, as also the causes. It now remains to allude to the

"*Treatment.*—And I may remark here, severe and distressing as the disease is, it is, in a general way, very amenable to treatment. In the earliest stages of the acute form, the best mode of proceeding is to

place the patient at rest in bed; if possible, to give a hip-bath, with warm vaginal injections, followed by leeches to the vagina or lower abdomen if the pains are very severe. An opiate vaginal or rectal suppository of two grains of opium, once or twice a day, will much assist. The urine should be rendered as bland as possible by the administration of alkalies; opium frequently, and in full doses, according to the relief produced. After the earlier symptoms have passed off, and the muco-purulent secretion has commenced, we may begin the washing out of the bladder with hot opiate injections. At first the presence of the catheter gives much pain and distress; but after a few days this may be done without pain, and with much future advantage, for the act of washing out the bladder rids it of the alkaline state of the secretions, the mucus, and the entangled crystals. All these, by their retention, increase the original trouble to a degree you would scarcely imagine till you see the great relief obtained by ablution with an acidulated fluid. I first of all wash out the bladder with warm water, slightly acidulated with a few drops of nitric, hydrochloric, or acetic acid (a tablespoonful of vinegar to a pint of water answers very well) to the ounce. As much as the bladder can bear should be used. This is allowed to flow out again; and, if it can be borne, another similar quantity is injected, and allowed to flow. After this, a grain of morphia, dissolved in one ounce of water, slightly acidulated with hydrochloric or nitric acid, should be thrown in, and allowed to be retained as long as it can be borne; the longer the better. This should be repeated, if possible, twice a day. The fluid should be thrown in very gently: an ordinary gum-elastic catheter will do, fitted to a syringe holding three or four ounces. It is well not to pass the catheter far beyond the neck of the bladder, otherwise, if it touches the sides or back, the distress is great. In such cases more force must be used upon the piston of the syringe. Now, although some temporary distress is caused by the operation, it will, as a rule, be found attended with so much benefit that it far outways the pain. Some authors have stated that the employment of injections has caused so much pain that it has led them to discontinue them. I can only speak from my own observation, which quite tends to the opposite. It may be that done for the first time it has acted so, but if they are continued this soon wears off, and in its place a marked improvement results. In any case the pain of an injection has scarcely ever been complained of by the patient as anything unbearable; nor in those cases where I have inquired has more pain been felt than ordinarily is endured by them in the disease.

"In the early stages I have almost invariably used, as before mentioned, morphia, as least irritating to the mucous coats. In those cases where the urine is ammoniacal, nothing is more marked than the effect of thus washing out the bladder with acidulated warm water twice a day. Supposing it is a few days after labour, the catheter generally draws off the retained portion first; then the warm acidulated water is thrown in and allowed to run away; and lastly, the injection of morphia, which the patient is directed to retain as long as possible. Under this treatment a very considerable alleviation takes place immediately in all cases; and where the disease has been simple cystitis, the patient steadily improves. In those cases which have resulted from the act of

parturition I always prefer at once to pass a catheter, to make sure there is no retention. This, of course, is to be done with care, keeping the point towards the anterior wall of the urethra so as not to make any more pressure on the posterior wall than is necessary, in case it might be in a softened condition, and easily broken down. Nor should you pass it further than needful; the moment urine flows, stop, so as not to annoy the tender mucous membrane. The catheter, I may here remark, should have larger openings than usual, so as to give speedy exit to the flow of the ropy mucus. Should it become choked by this it will give much less irritation and pain to thrust a small quantity of warm water by a syringe through the catheter than to withdraw it to clear it out; therefore it is well for you to possess a catheter and syringe fitted to one another. At the same time it is well that the syringe should be capable of throwing a continuous stream with an easy action, to prevent jarring the bladder. If we find in these cases after delivery that there is a want of complete evacuation of the contents of the bladder, it will be advisable, at least twice a day, to draw them off, coupled with the washing out above advocated. If possible, and if the tendency to ammoniacal decomposition be very great, it would be better to repeat this every eight instead of twelve hours. The vagina will generally be in an abraded and semi-sloughy state in these severe cases; it will, therefore, be a great relief to wash it out also at the same time. Both can be accomplished without difficulty, the patient lying on the side. It is also much better to look for the meatus than to pass the finger into the vagina to feel for it, should there be very much tenderness of the parts. I have always found that, though distressing just for the moment, the relief often has been very marked for some hours.

"Unless there has been serious pressure on the bladder during labour, you will find, by early and steady attention to these rules, that the disease is not permitted to become confirmed into chronic cystitis, but that in a few days the vesical mucous membrane, which if left to the continuous provocation of highly irritating fluids would have become most distressingly inflamed, will begin to recover its healthy state, so that after this point it may be treated as chronic cystitis.

"Should cystitis have arisen from the presence of misplaced uterus, such as retroflexion and anteflexion, with complete or partial retention, the case must first of all be treated by evacuation of the contents of the bladder, and then by the restoration of the uterus. If then the bladder is not shortly relieved, it will be necessary to inject morphia as above indicated. In cases where this disease has arisen from the opening of an abscess, &c., into it, although we cannot hope for much until the evacuation be complete, yet the use of morphia injected into the bladder is of great utility; afterwards we must treat the disease as one of ordinary chronic cystitis. But if, as has not unfrequently occurred, a foreign body is entering or has entered the bladder, then in our treatment we must be guided by circumstances. If the body—such as the larger bones of a fœtus—cannot escape from the urethra, we shall find serious symptoms quickly arise. It may be necessary either to open the bladder through the vagina or by an abdominal opening. Dilatation of the urethra, however, may give an opportunity to remove it without an artificial opening.

"It is seldom that acute cystitis arises from the irritation of lithic acid in the urine. But a very severe form will always be liable to arise from the ammoniacal decomposition of the urine; as, for instance, in cases of spinal mischief, even without paralytic retention. In both these instances the primary cause must be corrected as far as possible. In the former this is not difficult, but in the latter it is very troublesome; and the cleansing of the bladder should be done at least once a day, as above directed, and morphia injected, if not contra-indicated; for although the mucous surface of the bladder does not absorb rapidly, yet it does so to a marked extent.

"The irritation of the bladder in cases of complete paralysis is a very distressing accompaniment, and after a time the urethra becomes much inflamed from the dribbling of urine which generally is present, and from the frequent passage of the catheter. In such cases it is best, after washing out the bladder, to leave some acidulous water, so as to counteract the alkaline tendency. The whole of the mucus should be drawn off, as far as practicable, so as to prevent the formation of ammonia. After a little improvement has taken place, these cases may be treated as in the more chronic severe forms.

"And this brings us to the consideration of those cases in which the very acute symptoms have subsided, but where yet the disease is very distressing and severe. It is this form which is more likely to appear before you in hospitals. Frequent desire to micturate, the forcing attending it, and turbidly-passed urine, are the most prominent symptoms.

"The general treatment must much depend upon the original cause. Opiates form the most reliable remedies: decoction of pariera; with either acids or alkalies, according as it is desired to check the abnormal state of the urine. In some of the milder cases the vegetable astringents, as uva ursi and gallic acid, do good; in others, the tincture of muriate of iron, with tincture of opium.

"But most good will be done by the local treatment. I first daily empty and wash out the bladder well with acidulated water, and then leave an ounce of acid morphia solution of one grain to the ounce. If the condition does not much improve by this, I then venture to try an astringent, such as one or two grains of tannic acid to one ounce of water. At first this produces an increased contraction of the bladder, but it subsides after one or two applications. If the urine be putrid, I have found the employment of chlorate of potass, in four to five grains to an ounce of water, highly useful. I was led to its use in the following manner:—In a case of this nature of a very severe character, where life was in jeopardy by it, I ordered a gargle of chlorate of potass for the severely aphthous mouth. By mistake it was injected into the bladder instead of morphia. Immediately the putridity of the urine ceased, and the patient began to improve in general state and in local symptoms. So marked was this, that although she had up to that time been steadily going down, directly the injection was used the change for the better was most marked. In similar cases I have tried it many times, and always with good result. It may, however, give some pain if too strong.

"If in some cases there is bleeding combined, I have used tannic

acid in two to four grains to the ounce of water; or even tincture of muriate of iron, diluted with water. It might be supposed that much distress would ensue from the use of the latter drug, but with care it can be borne. Of course it is not allowed to remain in the bladder, which is even washed out with water afterwards. In a case of severe hæmaturia, with a large quantity of mucus, and very frequent desire to pass urine, admitted under me at Guy's, I tried gallic acid without success. One part of tincture of muriate of iron diluted with nine parts of water was then injected into the bladder, using a quantity at each time sufficient to well fill the bladder. It was allowed to pass away through the catheter. The bladder was then washed out, and a dose of morphia left behind. This was painful at first, but it appeared not to have been much more so than the ordinary pain. This was continued some time, with a slow but ultimately decided improvement of all the symptoms. At first probably a tablespoonful of blood passed daily, but when I last saw her there was none, though still some mucus. She left the hospital before she was quite cured, and the symptoms somewhat returned. However, upon re-admission, she was again treated in the same way, and left quite free from cystitis. I was fearful at first that she had villous disease of the bladder, which is accompanied by much hæmorrhage. It was curious that upon one occasion eight grains of morphia, by mistake, instead of one, were injected after the iron had been used. The effect was very marked, but not enough to give rise to anxiety. How long it remained in the bladder did not appear. However, she was very much improved after this, and it seemed to have been for some reason decidedly beneficial. Nitrate of silver solution—thirty grains to the ounce as a maximum—may also be used in the chronic forms. It is best to wash out with water first, even in those cases which have not much mucus, otherwise the saline ingredients decompose the nitrate of silver, and it loses much of its power. This will, of course, to a certain extent, always be the case. I have used thirty grains without any severe pain, and with much diminution of the distress, after the first pain of the application had subsided. As with the tincture of muriate of iron, it should be used in plenty, and only for a short time, the bladder being washed out after for the first or second time.

"By the daily use of these remedies you will, in the simpler forms of cystitis, get rid of the more acute symptoms shortly; but as regards the irritability of the bladder, which often succeeds this, we must continue the use of the morphia for some little time—every day, or as frequently as seems necessary.

"*Irritable bladder* is a very frequent trouble to women. It is distinguished from cystitis by the absence of mucus in the urine. There is a frequent desire to pass urine, but seldom much distress afterwards.

"Many things will cause this. Often it is the relic of cystitis—an irritability of the mucous membrane after its inflammation has passed away. Sometimes it is dependent upon the state of the urine, whether acidity or alkalinity be excessive. Frequently it arises from a nervous temperament, or from reflex irritation from disease of the rectum, uterus, or urethra. Where prolapsus of uterus exists it is not unfre-

quent: the bladder is drawn out of its normal shape, and by this excited to contraction. Again, when the bladder is pressed upon by the pregnant uterus towards the latter stages, its cavity is flattened, and its fundus is drawn up, so that an ordinary male gum-elastic catheter will, in some cases, scarcely reach the fundus. This is in contrast with the partial retention produced by the pressure on the neck of the bladder by the uterus, when it has just risen out of the pelvis, in the middle of pregnancy. In the latter months the bladder will not contain any quantity. The same, to a certain extent, takes place in advanced ovarian disease.

"When the uterus is anteverted, especially if enlarged, or when, owing to the lax state of the vagina, it descends from its normal position, it frequently rests on the neck of the bladder, provoking the latter to contract. This is principally most annoying when the patient is in the erect posture, passing off when lying down. I remember a very marked case of this.

"A woman complained of inability to hold her urine, making her as uncomfortable as if she had vesico-vaginal fistula. This had existed for some time. On careful examination I could find nothing but a lax vagina, the fundus uteri bearing down on the neck of the bladder. Thinking this to be the probable cause of the annoyance, I prescribed an astringent injection. The use of this was immediately followed by complete relief, which still continued when I last heard of her, some time afterwards. She was still employing the injection.

"In many cases where pressure of the misplaced uterus is the source of the complaint, much good may be done by the recumbent posture, combined, if required, with the replacement of the uterus, according to its position. When this plan is employed the symptoms often disappear in a very short time. In the case of reflex irritation the plan will necessarily be carefully to inquire as to the seat of original excitement, as I have before pointed out; for the first exciting cause may have been cured and the effect yet remain. Where pressure has flattened out the bladder we cannot do much; but perhaps some help may be derived from an abdominal belt applied above the seat of the bladder, so as to take off some of the pressure.

"*Malignant disease* of the bladder alone is not very common. It is a very miserable and distressing complaint, combining the symptoms of severe cystitis with those of malignant disease.

"Sooner or later we find blood in the urine, as before alluded to. We may have blood in the urine from renal mischief, from vicarious menstruation, from calculus and foreign body in the bladder, from inflamed mucous membrane of that viscus, from villous disease, from malignant disease, and from urethral polypus or other urethral disease. Now, how are we to diagnosticate each one of these causes? This is, indeed, sometimes very difficult. The catheter will help us to separate calculus and foreign bodies. If the appearance of blood has preceded cystitis, then it may be suspected that the blood comes from the bladder, especially if there be pain in the back and loins. This does not preclude the possibility of villous disease, because here the cystitic symptoms may not be developed before the appearance of the blood. If it be vicarious, then irregularity of the menses will guide to its probable

origin. Where blood is present in simple cystitis, the diagnosis is very difficult at first: if the symptoms cease, we may expect the disease to have been simple. If malignant disease exist for any time, there will be thickening of the bladder, to be felt by digital examination per vaginam.

"This disease may extend over a considerable surface of the membrane, and generally, if not always, runs the course of the cancroid growths; so that, beyond immediately checking, by perchloride of iron and other styptics, I am afraid but little can be done towards a permanent cure. I would employ either the perchloride of iron or tannic acid.

"The employment of opium is absolutely essential to the treatment of this miserable complaint. It may also be given with great advantage as a vaginal suppository, or injected beneath the skin. Sometimes this plan will be more satisfactory than by the mouth.

"*Retention of urine.*—Having already shown to you that retention is a cause of cystitis, I will now enumerate the principal causes producing retention of urine in the female.

"1st. Pressure on the neck of the bladder or urethra, as by pregnant uterus, ovarian disease, misplaced uterus, anteversion, retroversion, fibroid enlargements of uterus, &c.

"2nd. Foreign bodies, as calculus, &c.

"3rd. Swelling of the urethra, as after labour; gonorrhœa, or other causes.

"4th. Stricture of the urethra.

"5th. Prolapsus of the uterus, as by distortion of the urethra.

"6th. Paralysis.

"7th. Hysterical nervousness.

"In all cases of decided retention of urine it will be our duty at first to make out its cause by a full examination—I mean by vaginal examination and by the catheter. It may, however, be made an exception when it occurs in single hysterical girls or women. In these we may for a reasonable time try the effect of remedies, such as a warm bath, opiates, &c.; after waiting twenty-four hours without benefit, however, we had better draw off the urine by catheter, postponing the repetition of the operation as long as possible if we find it due merely to nervousness. But in the other cases it is advisable to make out at once the cause rather than run the risk of allowing cystitis to be excited. If upon the introduction of the catheter we find a hard body in the urethra, the cause is clear. If we find paralysis of the limbs, then we may place the retention as its accompaniment. If it occur after labour, then we have most probably a swollen state of the urethra, preventing the exit of urine. Prolapsus of the uterus will readily show itself if it be the cause; and if stricture be present the difficulty of passing the catheter will readily explain the retention.

"I think the most common cause of retention of the urine arises from pressure on the neck of the bladder and urethra; and this, as before noticed, is more likely to be produced by enlargements situated in the pelvic cavity and at the brim than by those which, although of much greater size, have risen well into the abdomen, or have always been there. Now you will readily see that the pregnant uterus up to

the sixth month is more likely to cause retention than afterwards, when it tends not so much to obstruct the flow of urine as to prevent the accumulation of it. Again, ovarian tumours in the pelvic cavity, as well as fibroids in the uterus, are more likely to obstruct in early stages than in the later.

"If the uterus be in its normal position it is not very likely to obstruct, even if it be enlarged; yet you will easily understand that when it has become retroverted, particularly if more or less jammed down, the pressure of the cervix against the urethra will cause retention. Of course, in this position the uterus is in the pelvic cavity, and hence, unless the uterus have been previously retroverted, such an occurrence cannot take place after the sixth month of pregnancy, even if it can so late as that. If a patient has violently exerted herself during the middle months of pregnancy, and be seized with bearing-down on the rectum, with retention of urine and pain in the pelvic region, we may suspect that the uterus has become retroverted. It will not be difficult to recognise this by examination. At the upper part of the back of the vagina is a large solid mass, while the os uteri is carried upwards and forwards towards the neck of the bladder, upon which it presses. The bladder also is drawn backwards, so that the posterior wall is curved inwards by its pressure. A tumour containing fluid is to be found above the pubes. The diagnosis is completed by drawing off with the catheter a considerable quantity of urine. In all these cases of retention we seldom see complete obstruction; a little urine is generally passing in driblets.

"Now this sudden traumatic retroversion is very different from that which has come on by the enlargement of a pregnant uterus originally retroverted, or, as it most commonly is, retroflexed. There is no sudden invasion of symptoms; indeed, with the exception of the feeling of weight on the rectum and bearing-down, it seldom gives much annoyance till towards the fourth month, when, by pressing on the urethra by the cervix, it produces retention, generally imperfectly at first, until it becomes nearly complete. Examination of the abdomen, and per vaginam, of all the parts will reveal its true nature.

"If the uterus be fixed by old adhesions, then the obstruction is severe, and the danger considerable; but generally the enlargement of the uterus in the upward direction, by distension of the anterior wall, gradually draws up the lower or posterior part out of the pelvis, and thus the difficulty is overcome. That the originally retroverted or flexed uterus is the cause of most of these obstinate cases of retention is probably the fact, as pointed out by Dr. W. Hunter and Dr. Tyler Smith. In these cases our attempts at replacement should be cautiously made, so that if any difficulty be felt it is best to leave the case to nature, merely drawing off the urine if required. But violent efforts are most decidedly to be reprobated in any case, and it must be a very unusual one which would require induction of premature labour.

"But there is a class of cases of retention in which, although the uterus is retroverted at the time, yet it seems highly probable that it is so secondarily, and is not the primary cause. It is curious that the last six cases I have seen have been of this kind. They occurred at

about the second and third month of pregnancy, when, as you are aware, the long diameter of the uterus is not sufficiently enlarged to become fixed in the antero-posterior diameter of the pelvic cavity. There had been for some days previously a partial retention, but the complete trouble occurred rather abruptly. In all the uterus was most markedly retroverted. In one in particular (at the second month) the fundus of the uterus was driven down into Douglas's pouch, so as to distend the perineum, the bladder being enormously distended. Now, although the retroversion was very marked, the emptying of the bladder enabled it to be restored by the finger pressing up the fundus with so little difficulty that it seemed in nearly all the cases to assume its natural position spontaneously. In all the cases no repetition of the retention occurred; all that was required was to keep the patient on the side, and empty the bladder by catheter the next day or two, giving an opiate once or twice to diminish the forcing downwards induced by the former straining.

"In any case of retention, before attempts are made to effect restoration of the position of the uterus, it is best, you will easily perceive, to pass the catheter first; the impediment to its entrance is small, though, owing to the curve of the urethra being great, it requires management to pass it readily.

"Now sometimes a fibroid tumour, retroverting the uterus by its weight, acts as in the above cases. Although tumours of the uterus situated in the pelvic cavity are more liable to cause obstruction than when above the brim, yet altogether it is seldom they cause retention of urine, although, I confess, it seems wonderful that they do not, considering how much pressure they exert. When these tumours press the brim in front so as to cause retention, the catheter must be passed, as in a case of delivery when the head is in the same position; that is, by pushing up the mass, and carrying the point of the catheter forwards, and of course the handle of the catheter on the perineum. It is well to employ a small gum-elastic with stillet, which should be withdrawn as the catheter passes upwards.

"With regard to the management of cases of retention from paralysis, they fall chiefly under the care of the general physician. But as respects the local treatment, I think the frequent emptying of the bladder, and washing it out with acidulated water, is productive of great benefit; and it is well to leave a little weak acid in the bladder in order to neutralize the ammonia. There is usually in these cases a certain amount of urine overflowing, so as to give the appearance of incontinence of urine. It is always advisable to pass the catheter to ascertain the real state.

"There is occasionally seen a kind of retention of urine occurring after severe nervous or physical depression, which cannot be classed with those exaggerated kinds found in highly hysterical persons. It doubtless arises from a want of nervous power, and yields to treatment adapted to the improvement of the general health. Should retention continue after twenty-four hours, it is well to employ the catheter; but it should not be too often or too early employed unless cystitis be threatened. In one case I found the galvanic current through the pelvis and loins to act very well and immediately in overcoming the retention.

It will also be proper in these cases to endeavour to improve the system by tonics, &c.

"Perhaps the cases which will justly perplex you most, as young practitioners, are those dependent on the *hysterical* temperament, because there are none which more than these require the exercise of sound judgment. For if, on the one hand, you are over-active in attention to the local symptoms, you may, by employing the catheter, establish the very trouble you are seeking to cure; while, on the other hand, by permitting too long the retention, you may cause a serious injury to the bladder. Generally, however, the patient passes urine before it has produced any serious trouble in that organ; and you may, by diverting the patient's attention as much as possible from this symptom, and by attending to the general hysterical state, find these symptoms vanish sooner than if you had been more active in your local treatment. You may at least allow thirty-six hours to elapse in such a case, but much would depend on the quantity of urine secreted, to be ascertained by the hand placed on the abdomen at the pubes. You see therefore that it is very important to make a correct diagnosis: the state of the urine passed before the attack should be ascertained, if possible, that you may know if any real disease have pre-existed. If you have reason to believe that none pre-existed, and that no retroversion of the uterus from violent exertion is likely to have occurred, then, by the use of an opiate, a warm bath, and a purgative, you will most probably succeed in removing the retention. After allowing the above-named time to elapse, it will, if retention still remain, be best to employ the catheter, if you have evidence of the full distension of the bladder.

"Retention may also occur from the voluntary holding of the water for too long a period, whereby the bladder becomes over-distended, and loses its power of contraction. Cystitis frequently results from this. The urine must be drawn off, and the cystitis managed in the manner already indicated."

Art. 252.—*The Nature and Treatment of Puerperal Convulsions.*

By Arthur B. Steele, Esq., Lecturer on Midwifery, Liverpool Royal Infirmary School of Medicine.

(*The British Medical Journal*, August 17, 1867.)

The following remarks will, Mr. Steele trusts, throw additional light upon some of the more perplexing differences of opinion which exist among accoucheurs upon this disease and its appropriate treatment.

"First—as to general depletion by blood-letting—we have the highest authority for copious venesection as an essential part of the treatment of puerperal convulsions; and of its good effects under certain circumstances I can add my own testimony from observation. But then by others of equal repute—M. Trousseau, for example—we are forbidden to have recourse to the lancet in this affection. How can such opposite

views of treatment be reconciled? The solution of the difficulty consists in a consideration of the pathology of the disease. Without going minutely into the subject, it may be sufficient to state the well-known fact, that puerperal convulsions may arise from two distinct and opposite conditions of the system—one in which excessive distension of the vessels of the brain or spinal cord, or both, produces eclampsia by compression; the other, in which, from excessive loss of blood from hæmorrhage, natural or artificial, the nervous centres are drained of their blood, giving rise to convulsions from anæmia, as was first pointed out by Dr. Marshall Hall. Thus we see that bleeding in the one case is remedial, by relieving the oppressed nervous centres, and restoring the balance of the circulation; while in the other, it only increases the evil —'the therapeutics of the disease,' as tersely put by Dr. Tyler Smith, 'trenching distinctly upon its pathology.'—(*Journal of Obstetrics*, page 499.)

"Such, in brief, is the principle by which we are to be guided in the matter of bleeding in this disease. My own experience induces me to believe that, notwithstanding the high authority of M. Trousseau, cases of puerperal convulsions are sometimes met with, in which early and copious venesection is an essential element in their successful treatment. I am unable to appreciate the principle upon which local bleeding can be useful, except, possibly, to relieve the secondary effects of continued pressure upon the brain from a long continuance of the paroxysms, which would, I think, be more effectually *prevented* by the relief afforded in the earlier stage by reducing the quantity and force of the general circulation by venesection.

"The foregoing apparently simple and conclusive statement of the question, however satisfactorily it may dispose of the difficulty in deciding when to bleed and when to stimulate, does not, unfortunately, apply to a wide range of cases in which the state of the circulation in the nervous centres is not the main cause of the convulsions, in many of which it may be, as M. Trousseau states, the effect of eclampsia; and in others it may not exist to such an extent as to become a subject of material consideration in the treatment.

"Besides plethora, and its opposite condition, anæmia, we have other centric causes of convulsions, which may exist either with or without the first two conditions. Such are the various forms of toxæmia depending upon those agencies which interfere with the proper depuration of the blood, as constipation, and insufficient secretion from the bowels caused by mechanical pressure of the gravid uterus upon the intestines; cholæmia from insufficient action of the liver, or uræmia from affection of the kidneys. In addition to all these, we have the eccentric causes of convulsions, such as emotion, irritation of the uterus and the uterine passages; and, again, irritation through the medium of more distant incident excitor nerves, as irritation of the bowels, especially the lower part of the intestinal canal, from the presence of indurated fæces, worms, or the severe action of purgative medicines, all of which have been known to produce convulsions. Gastric irritation, and even irritation of the mammæ, caused by excessive soreness of the nipple, with mammary induration, have been the cause of convulsions.

"The indications for treatment in these varied conditions are too

obvious to require comment; and, under such circumstances, either depletion or stimulation, if indicated at all, can only be regarded as subsidiary or secondary measures. Next to blood-letting, the most vexed question is that relating to the propriety of artificial delivery. In forming a conclusion upon this point, we must still be guided by the pathological conditions present, and their relations to the convulsions as causes. When there is reason to believe, from the absence of any other source of irritation, that the presence of the fœtus in the uterus is the exciting cause of eclampsia, delivery by the speediest method, and that least likely to add to the irritation already existing, is the manifest indication. The propriety of emptying the uterus must entirely depend upon the peculiar circumstances in each case. If the convulsions depend upon causes evidently independent of direct uterine irritation, delivery will, I believe, usually (and I speak from observation on this point) produce no impression whatever upon the course of the disease. I have frequently found the paroxysms to continue unabated for some hours after delivery has been completed.

"By many the sole origin of puerperal convulsions is thought to be uræmia, as the result of excess of albumen in the urine. This, no doubt, is a very frequent, perhaps the most frequent, cause; but I am not convinced that it is the invariable cause. I also know that practitioners of much ability and experience rely chiefly, if not entirely, upon chloroform as the remedy—perhaps I may venture to say the specific—for this affection. I have had no opportunity of personal observation in the treatment of puerperal convulsions by chloroform; but I can well understand that, in many cases, it must be most useful in rendering the nervous system less susceptible of the exciting causes of eclampsia; and, from the evidence we have in its favour, it is impossible to doubt its efficacy; nor is its judicious employment at all irreconcilable with the principles I have endeavoured to lay down as a guide to the treatment of this formidable malady."

ART. 253.—*A Case of Puerperal Convulsions successfully treated by Chloroform and Induction of Premature Labour.*

By WILLIAM HOLME, M.R.C.S., &c.

(*Medical Times and Gazette*, August 3, 1867.)

Mr. Holme places on record the following interesting case:—

"April 16th, 1866.—During the night I was requested to visit Mrs. P., who resided about five miles away in the country. I went, and found my patient a slender, spare, and most excitable woman; she was the mother of six children, and was again advanced to the seventh month of pregnancy. From the attendants I learned she had had what appeared to me to resemble a fit of hysterical excitement; it had come on suddenly without any warning beyond slight headache and irritability of temper the previous day. She was now partially recovered, and was lying in a semi-comatose state. On rousing her she became very ex-

citable, sobbing, and tearing her hair. Pupils natural; pulse 100; bowels rather confined; tongue clean; no swelling of legs or puffiness of eyelids. Never experienced anything similar before, and has always enjoyed good health. Ordered a large assafœtida enema, a mixture of valerian, and cold applications to the head.

"17th.—Was again summoned to see her, when I had an opportunity of witnessing several attacks of genuine convulsions, during which the tongue was severely bitten. I took about 8 oz. of blood from the arm, gave a couple of drops of croton oil, and administered another enema. Bowels acted freely, but convulsions, which had now become frequent, continued unabated. On examining the urine, I found it scanty, high-coloured, and loaded with albumen, doubtless caused by the pressure of gravid uterus upon renal vessels. Ordered to be enveloped in wet blanket, and a sudorific mixture given every two hours. Chloroform was administered during the fits, which were much relieved, but directly it was withdrawn, they reappeared with usual severity.

"18th.—About the same; chloroform steadily continued.

"19th.—Fits continue, and the patient obliged to be kept more fully under the influence of chloroform; pulse quicker and more feeble; fœtal heart distinct, yet weaker; os uteri high and closed; no symptoms of labour present; urine albuminous and scanty. 10 o'clock, p.m.: As she had taken little or no food since my first visit, and symptoms of exhaustion were setting in, it was evident she could not long survive unless relieved; the fœtal circulation was also failing. I determined to try to induce premature labour, and endeavour to save both mother and child. The patient being fully under the influence of chloroform, a gum elastic male catheter was introduced into the uterus, several ounces of liquor amnii escaping; catheter retained *in situ* by means of tapes, &c.

"20th.—4 o'clock a.m.: Labour pains set in: os uteri dilating; presentation natural. At 10 o'clock a.m., delivered of a living seven months male child. Convulsions less frequent. Chloroform withdrawn, and only ordered if an attack came on.

"21st.—More rational; not had any chloroform since delivery. Urine increased in quantity and less albuminous; aperient ordered.

"22nd.—Improving. Less albumen.

"25th.—Mother and child doing well. No albumen in water. Tonic mixture ordered.

"May 22nd.—Quinine mixture given; patient discharged.

"July 1, 1867.—Mother and child quite well.

"Cleator-lodge, Windermere."

Art. 254.—*A Case of Metritis following Induced Abortion, and complicated with Scarlatina.*

By E. R. Hutchins, M.D., Philadelphia, Pa.

(*New York Medical Journal*, June, 1867.)

The following case is an interesting one, as showing to what an extent abortions are carried, injuring seriously the uterus, as well as the

nervous system generally, and also as showing a very satisfactory and rapid recovery:—

Mrs. Annie J——, aged twenty-eight, mother of two children, first came under treatment Sunday, January 13. The preceding Thursday she had consulted a woman, who was lately arrested for producing abortions, but was soon after acquitted by court, and she was given a "brown powder," with directions to return in two days. Accordingly, on Saturday following she again presented herself to this woman, who gave her another "brown powder," and directed her to lie upon the bed. When this was done "she *pushed* her finger into the womb," producing but little pain, and no immediate discharge. Nine hours after she aborted, at two and a half months; the hæmorrhage, as described by the nurse, was profuse. Sunday, January 13, thirteen hours after abortion, she presented the following symptoms: Pain severe and lancinating in umbilical and lumbo-sacral regions; violent headache, with delirium. Upon closing her eyes she experienced great "coldness" on vertex, and *at once* became hysterical; now laughing as if in high glee, and now crying and sobbing like a child. Skin hot, dry, and flushed; tongue thickly coated, white; pulse small and frequent (129); profuse discharge from vagina. Administered ½ gr. morph. sulph. hypodermically, followed in *three minutes* by calm and undisturbed sleep.

Monday, 14th. Slept three hours after injection last night, but upon waking was delirious and restless. Her eyes are glaring, and constantly she opens and shuts them. Pain severe in supra-pubic region; tenderness upon pressure; pulse 120. Bowels constipated. Discharge from vagina unabated; shreds of tissue mixed with blood escaping; no appetite. Ordered a copious enema, and tinct. valerian., and sol. morph. sulph., ʒj, aa, every two hours. P.M. Pain still severe; less delirious.

Tuesday, 15th. Slept only at times during the night; less delirious, but at times seems very much in fear of some imaginary evil; discharge the same, skin hot, dry, and florid; very thirsty; pulse 116; complains of sore throat. Ordered warm poultice to throat, with gargle of chlorate of potassa. P.M. Tongue has thrown off its fur, and is now deep red, papillæ projecting. Efflorescence indistinctly papulated, bright red, hot and dry, with lining membrane of mouth, fauces and pharynx inflamed, indicate scarlet fever at hand. The abdomen is painfully tender, and somewhat tense. Ordered large hop poultice to abdomen, warm water enema; barley-water, with an excess of chlorate of potassa, to be taken *ad. lib.* Discontinue val. and morph.; gin to be taken as the stimulant.

16th. Abdomen less tense and tender; scarlatina well marked; throat ulcerated and painful; expectorates mucus freely, mixed with blood; discharge from vagina profuse, and slightly offensive; somewhat delirious; pulse quick, 102; headache severe. Directed the treatment to be continued, with the addition of Dover's powder at night.

17th Throat worse. Swabbed it well with sol. arg. nit., gr. xxx to ʒj. No appetite; rash distinct over entire person.

20th. Febrile symptoms much improved; throat better, but still sore; desquamation going on nicely; pulse, 96; excessive pain in lumbo-sacral and supra-pubic regions; discharge from vagina profuse. *Ex-*

amination of uterus with speculum. Whole uterus enlarged and inflamed; bright crimson in colour; both lips swollen, anterior being hard and dense, while the posterior is soft and spongy, with a jagged cut extending directly through it, reaching up into cervix, and having its edges ragged and sloughing. The wound presented a somewhat stellate appearance, evidently produced by *forcing* the finger *through* the narrow os, and *tearing* the tissues in its way, until it reached the fœtus. Blood, mixed with pus, was freely flowing from os and wound. Applied to os and margins of wound only, sol. ferri persulp. in the following proportions: Monsel's sol. ʒj to ʒjv of water. This gave considerable pain, for which an opium suppository was ordered for vagina. Gave quinine and iron, with beef-tea and milk-punch. Copious warm-water injections were thrown up the vagina three times daily. Unable to sit up at all.

21st. Still much pain; discharge free and offensive; patient weak and low spirited; throat well. Discontinued use of barley-water.

24th. Symptoms of scarlet fever entirely disappeared; patient very weak, with but little appetite, tongue lightly furred; examination per vaginam shows improvement but slight; discharge as free as before. Renewed application.

29th. At times the pain is very severe; discharge not abated, and of a most offensive odour. Applied sol. ferri persulph. one third stronger, not passing it as yet *into* womb.

Feb. 1st. No improvement; pain very severe; edges of wound still ragged. Applied equal parts of water and Monsel's sol. Produced great pain and soreness, which was at once relieved by hypodermic injection of morph. sulph., gr. ½.

3rd. Much improvement; less discharge and less pain; edges of wound showing a disposition to heal kindly; less ragged in appearance, and pouring out some pus. Re-applied solution.

7th. Patient stronger, and has a better appetite; is able to sit up in bed a short time; uterus diminished in size; posterior lip less spongy; anterior less dense; discharge is free and offensive; edges of wound approximating. Renewed application.

10th. Decided improvement; edges of wound uniting, and excavations filling up with healthy granulations; uterus nearly normal in density. Applied *pure* Monsel's sol. to parts, and injected a drachm into cavity of uterus. Has pain now only at intervals; discharge less, but still somewhat offensive.

14th. Patient able to walk about a little; wound entirely healed; slight congestion in cervix: hypertrophy sensibly diminished. Applied Monsel's solution freely to cervix, and injected it into cavity of uterus.

17th. Yesterday was the day for the menses to appear. She accordingly experienced much pain about ovarian and lumbo-sacral regions, and there was an abundant "show."

22nd. Examined the uterus, and found congestion subsided; uterus normal as to position and density; os large, as in recently gravid uterus; pain diminished and discharge ceased; patient feels strong, and is able to be about attending to her duties.

Discontinued all treatment, save free injections of cold water to vagina.

Art. 255.—*Chronic Metritis.—Professor Scanzoni's Treatment.*

(*Journal of Practical Medicine and Surgery*, and *New York Medical Journal*, August, 1867.)

Professor Scanzoni, of Wurtemburg, has never obtained any good effects from anything but the iodide of potassium and the iodo-chloride of mercury in direct application to the uterine and vaginal mucous membranes. He uses, for instance, a liniment containing one drachm of iodide of potassium to one ounce of glycerine, and places every night in the vagina a sponge impregnated with this fluid. The sponge is removed in the morning. This, he says, is the only method of iodine dressing which has ever been found capable of reducing in the course of two or three weeks the size and induration of the inferior segment of the womb, and is infinitly preferable to the application of tincture of iodine and of iodised liniments to the inguinal regions.

Scanzoni has more recently had recourse in the same manner to the introduction into the vagina of the following pomade:—

Hydrarg. iodo-chloridi, gr. v.
Adipis, ʒ.

After each application of the remedy, which requires the assistance of the speculum, the patient should keep her bed for six or eight hours.

The sponge may then be extracted, and an injection of tepid water should be performed. The epithelium is in general destroyed in the parts which have come into contact with the ointment; exudation follows, and marked decrease of size of cervix. The application may be repeated several times if necessary, at intervals of ten days or a fortnight. Scanzoni has completely relinquished the practice of applying tincture of iodine to the vagina or cervix. When excoriations are present, he prefers to all other local remedies, rectified *pyroligneous acid*, pure, or mixed with equal parts of creasote. He leaves these modifiers in contact with the ulcerated surfaces, until the sanguineous oozing has ceased, and until the part, which is in general of a bright red, has acquired a dead-white colour.

Art. 256.—*Epileptiform Neuralgia during the Puerperal Period: Epileptic Seizures: Phlegmasia Dolens.*

By C. J. Evans, Esq., Northampton.

(*British Medical Journal*, July 6, 1867.)

Mr. Evans relates the case of a married woman who, on the eighth day after her second confinement, was seized with most severe neuralgia of the left side of the face and head, the pain being of an excruciating character.

He ordered two grains of disulphate of quinine in a pill three times a day. The neuralgic pains continued, though the severity of them gradually abated; and, about the beginning of the first week in January, he was summoned to her in the night, the messenger saying she was in a fit. He went at once; and although the fit was over when he reached the house, froth still issued from the mouth, and she had not wholly recovered consciousness. Cold was ordered to be applied to the head, and a mustard poultice to the back of the neck; the quinine to be continued.

She was reported to have had two more fits during the same night, but was quite conscious and sensible next morning, and they did not afterwards recur.

A new phase in the case now made its appearance. On January 8th, 1867, there was noticed much feverishness, with tenderness of the right leg and thigh in the course of the saphena vein. She was ordered an ammoniated saline draught every four hours, with a grain of opium at night, and a poppy-head fomentation (covered with oiled silk) to the limb.

At the end of two days the whole limb, from the foot to the groin, was enormously swollen, and very painful to the touch. The pain in the head at this time was much less than it had been before. A blister two inches wide and six long was directed to be applied to the inner side of the calf, and a second similar one along the inner side of the thigh. The quinine and opium were ordered to be continued, the latter in double doses.

January 24th. The pain and swelling of the limb were greatly diminished; but the neuralgic pain in the head was again more severe.

By February 3rd, she was able to come downstairs, all pain, both in head and limb, having ceased; and the swelling of the latter gradually and entirely disappeared.

Art. 257.—*Excessive Lactation and its Effects.*

By Graily Hewitt, M.D., F.R.C.P., Professor of Midwifery and Diseases of Women at University College, and Obstetric Physician to the Hospital.

(*The Lancet*, July 6, 1867.)

The process of lactation constitutes a great drain on the system. A woman in health and of good constitution will suckle her child, and for some considerable time, without experiencing any bad effects; but, under other circumstances, this long-continued supply of food to the infant is productive of very injurious—and not seldom lasting—effects on the body and mind of the individual.

One of the most constant symptoms is the presence of an aching pain in the back; often pain is felt across the shoulders and on the top of the head or forehead. Great pallidity of the skin is generally observed. A marked symptom is want of sleep; the patient will often tell you she has had no sleep for a week, or, when she does sleep,

that she is awakened by frightful dreams. There is marked and great debility. The appearance and expression of the face is peculiar in these cases, sometimes remarkably so; it conveys an idea of intense bodily prostration.

The mental changes are worthy of special note. There is almost constantly extreme depression of spirits; the patient feels as if she had lost all life and energy; she is desponding and miserable. We have before us, in fact, symptoms which are the possible precursors of a malady of great gravity—viz., puerperal mania. Aberration of mind may occur in connexion with or as a result of the exercise of the uterine parturient functions at two periods—viz., as the immediate result of the labour, or later, when the system is debilitated by excessive lactation. It is more frequently a result of excessive lactation, and the necessity for recognising the first symptoms of this disease is obvious, being, as it is, preventable. The mental disturbance now under consideration generally takes on the form of melancholia; the delusions relate mostly to subjects of a religious character. A lady under my care became the subject of a very severe attack. She had suckled her child for upwards of a year, and had most imprudently taken some very long walks with her husband while suffering from menorrhagia. She became excessively weak and ill. Delusions to the effect that she had committed the unpardonable sin, that she could not be saved, and the like, possessed her. This case is an instance of the condition to which a patient may become reduced from the excessive drain of unduly prolonged lactation. The menorrhagia in this instance was due to the excessive lactation.

The headache in cases where the cerebral functions are suffering from the effects of excessive lactation, is situate at the top of the head, and it is worthy of note that this spot may be noticed to be perceptibly hotter to the touch than other parts of the head.

In the eight cases forming the basis of these remarks, the patients had all presented symptons indicating want of vital power. The mental symptoms had not in any one of them passed beyond the stage of extreme melancholy. There had been no delusion, but the disease was not less important by reason of this. Some of these had become so reduced that many months will probably be occupied in repairing the mischief which had been done. [Two of the patients who had been some little time under treatment, and who had been greatly benefited, were shown to the class. They still exhibited, though in a less marked degree, the conditions above described.]

The Treatment.—To wean the infant is obviously the first indication. When should this be done? We have to consider, it must be recollected, the infant as well as the mother. The infant requires breast-milk for the first month or six weeks. Experience has shown the great difficulty of rearing children from the very first without it; but it is also the result of experience that an infant nourished with breast-milk for that time may afterwards do tolerably well without it. Hence the conclusion, that a mother may pretty safely—for the child—wean it at the age of six weeks or two months. A woman presenting evidence of suffering, such as those above related, should not be recommended to prolong lactation after this period. And in large

towns, amongst the destitute classes, this principle appears to be the best that can be laid down. Cases now and then present themselves in which we should hesitate to recommend the process of lactation to be continued so long as a month or six weeks; there are others in which lactation seems altogether improper from the commencement.

The next important indication is to procure sleep. For this purpose one or two grains of opium may be given at bed-time, and it may be necessary to order the patient ten minims of Battley's solution of opium once or twice during the day. When mania has actually come we rely a great deal upon opium; in the form of the bimeconate of morphia it is very applicable in such cases, and very large doses are required. Not less important is the administration of good food. In most of the cases the subjects of these remarks, the patients had been very insufficiently fed. The diet ordered should consist of the most nourishing and easily-digested food: meat twice or three times a day if it can be taken, or eggs, milk, and beef-tea. Stimulants are required, sometimes in large quantities. In the case of the lady suffering from religious mania, the effect of excessive lactation, before referred to, the patient took not only stout in large quantities, but wine and brandy daily, and for a considerable time, both during the attack and during the convalescence. The less severe cases must be treated on the same principle.

In all cases where there are any symptoms of mental alienation, or even where the patient is profoundly melancholy, she must be closely watched. Absolute rest must be enjoined. In all cases, also, as may be gathered from what has been already said, whether there be signs of mental alienation or not, tonics—iron, quinine, or bark—are indicated.

Art. 258.—*Case of Extreme Anteversion of the Uterus cured by the application of a Bag of Sand on the Hypogastrium.*

Under the care of Dr. Greenhalgh.

(*British Medical Journal*, July 6, 1867.)

In a former mirror of this journal (Feb. 2, 1867, *Half-Yearly Abstract*, vol xlv. page 312), we described a novel form of pessary, contrived by Dr. Graily Hewitt, for the cure of anteversion and anteflexion of the uterus. We to-day publish a case, for the notes of which we have to thank Mr. H. Jarvis, resident accoucheur, in which an anteverted uterus was rapidly brought into a normal position by a very simple method, which Dr. Greenhalgh is, we believe, the first to have suggested.

Maria Tethnar, aged thirty-eight, single, had always been well up to November last, when she took cold whilst bathing. The catamenia since became very irregular and profuse. She suffered severely in the lower part of the back and in the abdomen, and from incontinence of urine, retaining it only fifteen minutes at most. On November 10th,

1866, Dr. Greenhalgh introduced a straight silver stem, with relief to the pain, the incontinence continuing. The stem was expelled after five days. On December 15th, a curved stem was introduced, and retained fifteen days, with the same result. At the end of January, 1867, she was admitted as an in-patient. A bag of sand, weighing three-fourths of a pound, was placed over the bladder; and she was desired to retain her urine each day a few minutes longer than the previous one, if possible, which she did. She gradually improved; and by the end of March the uterus was in its normal position, and she could retain her urine from six to eight hours.

Art. 259.—*The Ether-spray in Uterine Hæmorrhage.*

(*British Medical Journal*, July 20, 1867.)

Dr. T. C. Thompson, of Matagorda, Texas, in a letter to the *Philadelphia Medical and Surgical Reporter*, relates the case of a lady "three months *enceinte* threatened with abortion; and, after failing with usual remedies to prevent it, an alarming hæmorrhage followed, which defied all treatment by opiates and astringents, cold applications, and buckets of water; and, while arranging some cloths for a tampon, I was induced to try rhigolene spray to a circle of about two inches in diameter immediately over the womb. Contraction of the inert uterus followed, and, of course, cessation of hæmorrhage. How much less inconvenient and disagreeable such simple means of relief is to the patient, than by flooding the bed, and chilling your patient with buckets and cloths of water." This is a useful pendant to the case communicated to the *British Medical Journal* by Dr. Broadbent of Manchester.

Art. 260.—*Selected Cases, demonstrating the value of Electricity as a Curative Agent.*

By Harry Lobb, M.R.C.S., &c.

(*Medical Press and Circular*, Oct. 2, 1867.)

The following cases are placed on record by Mr. Lobb:—

Paralysis resultant from exhaustive discharges.—Lady L—— had had eight children in nine years, and had nursed them all, found that at each succeeding birth she had less power to nurse, and also found that she was losing strength in her back, complained after weaning the child of a sense of great weariness in the back, and after the birth of the eighth child had, on getting up, discovered that she had lost all power in her legs, and could not walk. Eleven weeks after her confinement the case was handed over to me by Sir Charles Locock. On considering the history of the case, I considered that the disease consisted of a debility in the cord, from too frequent and prolonged calls upon its functions, and that there was no

organic disease—merely inanition. I looked upon the voltaic current as specific, and applied a system of voltaic bands from the cord down the legs, to be retained in position by an elastic bandage. I also applied a tolerably powerful voltaic current from a 120 element Pulvermacher battery from the thighs to the lumbar portion of the spine for an hour daily. The result of this treatment, although slow, was sure, for in three months she could walk about her garden, and had regained her power of walking.

Paralysis from prolonged Lactation.—There are few practitioners who have not been called upon to treat women for some form of ailment caused by excessive lactation. Have seen complete amaurosis produced by this cause several times—paraplegia frequently—but in the great majority of instances, tonic treatment, good diet and fresh air, will effect a cure; occasionally this will not produce the desired result, and electricity is necessary.

Mrs. C. had nursed her child twelve months with the idea of preventing herself becoming *enceinte;* had lately observed great numbness of the arms and hands, and had, by degrees, lost power over her fingers, could not use a needle or button her collar; had ceased to nurse the child, but was getting worse; tonics had been tried, but without avail, and her medical attendant in the country had sent her to me, as he was unable to improve her condition.

On examining with the electro-magnetic current of the secondary wire, I found numbness in patches over both arms, so much so that she could not feel the highest power of the battery, and the muscles covered by the numbed surface would not contract upon the electrical stimulus. The case appeared to me quite clear. I passed a powerful current from a 120 element battery to the upper part of the spine, from the palms of the hands, and stimulated occasionally the numbed portions with the wire brush from the electro-magnetic battery; the case was more obstinate than I anticipated, as I thought that a week or ten days of such treatment would have been sufficient; this, however, was not the case, as six weeks passed before a cure was effected.

Art. 261.—*Case of Pelvic Cellulitis.*

Under the care of Dr. Greenhalgh, St. Bartholomew's Hospital.

(*British Medical Journal*, August 3, 1867.)

The chief point of interest about this case is the pointing of the abscess below, instead of above, Poupart's ligament—a most unusual circumstance, which has not, we believe, been recorded before. We are indebted to Mr. H. Jarvis for the following notes:—

Jane S., aged twenty-three, was admitted on Feb. 4th, complaining of loss of power in the left leg, and of a swelling at the upper part of the thigh; also of being very low and weak. She had had two children, the first two years and a half ago. She had a good labour and quick

recovery. The second confinement was on the 4th of November last. She had a good labour; no bad results from it. She was confined at the Lying-in-Hospital, St. Luke's; and on the tenth day afterwards left the hospital for her own house The third day after being home, she was suddenly seized with sharp cutting pains all over the abdomen, quickly followed by cold shivers, which occurred about once a day for four or five days afterwards; and night sweats, sufficient to make the night dress quite damp; these continued a fortnight. The pains were relieved by hot linseed and bran poultices; but they continued more or less severe up to the time of her admission here. Her appetite had been very bad since the commencement of the attack: she ate scarcely anything. On Saturday, February 2nd, she discoved a lump at the upper part of the thigh, and now she found herself suddenly relieved from the abdominal pain, from which she has not since suffered.

On her admission a swelling was discovered just bulging above Poupart's ligament, and more distinct below it. The swelling bulged also into the upper part and left wall of the vagina. Soon after her admission, the skin was discovered to be red, and fluctuation could be felt about an inch and a half below Poupart's ligament. On the seventh day after becoming an in-patient the swelling was punctured half an inch below Poupart's ligament, and half an inch to the outer side of the anterior crural nerve, giving vent to about ten ounces of pus. The thigh had been flexed to about an angle of 60° one month before the abscess was opened. Two days after this she was again enabled to extend it. From this time she rapidly improved in health, her pulse becoming stronger and firmer, and she gained flesh. Ten days after the opening of the abscess, the upper part of her thigh was observed to be inflamed and painful. Pus formed, and the opening was enlarged. The inflammation subsided a few days only after it was first noticed.

Art. 262.—*The Diagnosis of Ovarian Disease.*

(*The Lancet*, July 6, 1867.)

M. Béhier showed the other day a curious tumour at a meeting of the Academy of Medicine at Paris. It was formed by an enormously dilated kidney, in a woman of sixty-four, where ovarian disease had been supposed to exist. She had been tapped twice, and a chocolate-coloured fluid escaped each time. The woman died of erysipelas, which had attacked one of the punctures. On a *post-mortem* examination the ovaries were found quite sound, and one of the kidneys had been transformed into the enormous sac mentioned above. Two calculi, situated at the junction of the ureter with the bladder, had given rise to this gigantic dilatation. M. Béhier concludes that we should not be in a hurry, in case of doubtful diagnosis, to perform ovariotomy.

Art. 263.—*On Encysted Hydropsy of the Ovary, and its Surgical Treatment.*

By Dr. S. Laskowski.

(*Gazette des Hôpitaux*, No. 89, 1867.)

The following conclusions have been enunciated by Dr. Laskowski, in a book writen by him on ovarian dropsy:—

"Cysts of the ovary are in the majority of cases developed between the ages of twenty and forty-five years.

"It is an affection which, if left to itself, will inevitably cause the death of the patient after a mean duration of between seven and eight years.

"Therapeutic treatment and simple punctures are useless for the radical cure of ovarian cysts.

"Punctures followed by injections of iodine, far from being so dangerous as they were formerly considered to be, produce in special cases a definite cure.

"Cysts with serous contents may be cured by iodine injections; when the cysts are multilocular, areolar, and have gelatinous and thick contents, injections are ineffectual.

"Ovariotomy is not more dangerous than other important operations, as amputation or disarticulation of the thigh, ligature of large arteries, or Cæsarian section.

"It ought to be attempted whenever other means have failed."

(c) Concerning the Diseases of Children.

Art. 264.—*Clinical Papers on the Surgery of Childhood.*

By Thomas Smith, F.R.C.S., Assistant-Surgeon to St. Bartholomew's and the Children's Hospitals.

(*The Lancet*, July 20, 1867.)

Nævus.—Under this term Mr. Smith proposes to include only those growths, spots, and stains that are either formed entirely of bloodvessels, or at all events owe their colour to abnormal vascularity; and are therefore in colour either bright scarlet, a deep dull purple, or some intervening shade. Moles and other pigmentary stains he describes under the term of "Mother's Marks."

Nævi may be composed chiefly or entirely of arteries, chiefly or entirely of veins, or of capillaries; being on this account termed respectively "arterial," "venous," or "capillary." They may occur in almost every part and in almost every tissue of the body; having been found in the liver, lungs, bones, and tongue, as well as in their more common seats, the integument and subcutaneous cellular tissue. M. Guersant

relates a case where, in one child, he found the disease in the lungs and liver, besides over a considerable portion of the head and face. There is no part of the external surface that is exempt from a liability to nævus, though certain localities show a greater tendency to the disease than others. Thus, the hairy scalp and face are, perhaps, the chosen seats of the affection, next the trunk, and lastly, the extremities.

In looking over the cases that Mr. Smith had noted as occurring in the out-patient room, he finds a singular predominance of females over males in those suffering from nævi. Since the month of July, 1861, he has seen 140 cases of nævus, of which he has kept some record: 95 were females, 42 were males, and in 3 the sex is not stated. This difference is too considerable to be accidental, especially when the aggregate number is taken into consideration; we may, therefore, safely conclude that female infants are far more liable to the disease than males, though Mr. Smith confesses he was quite unaware of this circumstance until he thus reckoned up some of his own cases.

In referring to the *symptoms* of nævus, one may shortly say of the *arterial*, that the only symptom distinctive of this variety is pulsation. These nævi are but rarely seen in adults, and are scarcely ever met with in children; it has never fallen to my lot to see one in a child.

Subcutaneous venous nævus is generally a lobular, puffy swelling, about the consistence of a fatty tumour, soft, and very slowly elastic; that is, if compressed firmly, it collapses considerably, and but slowly regains its shape and consistence on pressure being relaxed. It is situated at various depths in the subcutaneous tissue; if very near the skin it generaly communicates a bluish tinge to the surface.

Subcutaneous nævi may be confounded with cystic, glandular, and fatty tumours, and lastly, and most fatally, with meningocele. The diagnosis between subcutaneous nævi and congenital cystic tumours, in doubtful cases, may be facilitated, and the ignominous, though sometimes necessary, resort to a grooved needle may be avoided, by observing the effect of firmly grasping the tumour, a proceeding that much diminishes the size of a nævus, while it produces no impression on a cystic tumour, and this manœuvre is often absolutely necessary in order to distinguish between these tumours, since the blueness of deep vascularity over a subcutaneous nævus almost exactly resembles the blueness of translucency seen over congenital cystic growths.

Large subcutaneous nævi, when deeply situated in the submaxillary region, bear some resemblance to glandular tumours, and mistakes of this kind have been committed. Moreau relates the case of a surgeon, an author on nævi, who made this mistake. In this case, also, the employment of pressure would be a valuable means of settling the question; while the existence of any vascular tinting of the skin over the part, or the presence of nævi elsewhere on the body, would be almost decisive in favour of the growth being nævous in structure in a doubtful case. The same may be said of the diagnosis between nævi and fatty tumours, though the latter are comparatively rare in infants.

The following case, given by M. Guersant, illustrates the fatal resemblance the subcutaneous nævus may bear to meningocele:—

A child had on the internal angle of the right orbit a small swelling, which bore all the characters of a subcutaneous erectile tumour. Many

Fellows of the Surgical Society of Paris saw this case, and agreed with M. Guersant that the tumour should be treated by thread setons. Shortly after this had been carried into effect, the child was seized with cerebral symptoms, and quickly died.

On post-mortem examination, the growth was found to be an encephalocele; the sac of which, the size of a pea, passed through the fronto-ethmoidal suture, and protruded at the inner angle of the orbit. The protrusion was formed of a small portion of cerebral substance, covered by the membranes of the brain.

Such a tumour Mr. Smith himself has seen on the bridge of the nose in an infant. The real nature of the swelling was only decided by a puncture with a grooved needle—a proceeding which proved it to be a meningocele, that must have protruded through the fronto-ethmoidal suture. In dealing with nævi in connexion with the bone at the inner angle of the orbit, it is always prudent to bear such facts as these in mind. And though Mr. Smith confesses that in some cases it is exceedingly difficult to arrive at a clear and certain diagnosis, yet he believes that a searching investigation of the surface of the skull beneath the tumour by firm pressure will generally detect some chink in the bones if the tumour be of cerebral origin. In any case of doubtful identity, the existence of nævous growths on other parts of the body will be a strong ground for suspecting the disease to be of a similar character; while a small puncture with a fine grooved needle will always settle the question without endangering the life of the patient.

Cutaneous nævi are those that involve the skin to a greater or less extent without extending into the subcutaneous tissue; they may be flat, on a level with the surface of the skin, or may protrude beyond it; they may be definitely circumscribed, or may be diffuse, or spotted about the surface of the skin; again, they may be pendulous. The colour may vary from the slightest blush, through tints of lividity and crimson up to the brightest scarlet.

Mixed nævi, as they are called, are by far the most common variety of the disease. The bulk of the growth, in this case, lies in the subcutaneous tissue, while more or less of it involves the skin, either replacing the latter, or staining it in varying degrees of intensity. They derive their supply of blood both from the vessels of the skin and those of the subcutaneous tissue. These nævi, like the cutaneous, may be circumscribed; or if diffuse, they may either gradually and imperceptibly fade away and blend with the natural textures, or they may at their margins pass into spots and patches of nævous tissue, cropping up here and there on the surface of the skin, from out of the subcutaneous tissue.

Venous nævi, of whatever kind, are generally congenital, being usually noticed at birth as small specks, spots, or lumps, beginning to enlarge rapidly a week or two after birth. Their tendency is to continued increase for an uncertain time, and before the age of puberty to disappear. This is especially true of nævous *tumours* (that is, the subcutaneous and mixed nævi), as distinguished from the strictly cutaneous variety. Cutaneous nævi are too apt to remain throughout life as permanent disfigurements, though they may fade somewhat in the intensity of their colour. In support of this statement, Mr. Smith refers to the

opinion of some who have had most experience in this disease, such as Guersant and Moreau. Mr. Syme also entertains and has expressed decided opinions in favour of this view. Moreau mentions three cases where nævi condemned to operation by Dupuytren recovered spontaneously. Guersant relates an instance where several nævi on an infant disappeared in the same way. Bouchut gives another such case.

The manner in which a spontaneous cure may come about is either by simple shrivelling, by inflammation, by ulceration of the surface, or by degeneration of the nævus into cysts. Deep subcutaneous nævi are, of all others, the most likely to undergo shrivelling and cystic degeneration—a process that has been well described by Mr. Coote.

The florid cutaneous nævi that entirely destroy and replace the natural texture of the skin not rarely ulcerate, either spontaneously or as the result of blows, or from the friction of the child's clothing. Thus the natural history of nævus formations is to begin life with the individual, to grow actively for a time, and, having lived its term, to degenerate or wither and disappear.

The period of infancy seems the most favourable to the development of these growths. There are, however, two other epochs when already existing nævi may start into active growth, or fresh nævi may form: these are the commencement of puberty in either sex, and the period of pregnancy in women. The nævi that appear at these times are generally small and cutaneous, and are likely to disappear with the peculiar constitutional condition that favoured their formation.

The kind of nævi most likely to undergo a spontaneous cure, and that within a reasonable limit of time, are the large, unwieldy, and turgid nævi that are usually found about the axilla, or in the fat of the breast and the surface of the abdomen, and especially the enormous mixed nævi that sometimes grow about the parotid and submaxillary regions.

The early signs of the probable retrocession of the disease are, a cessation of growth, an increase in solidity if it be subcutaneous, and a loss of brilliancy of colour. When the process has fairly commenced, light-coloured and dead-white spots appear on the surface, looking like the cicatrices of some caustic application; while the skin at these points is often slightly dimpled down and puckered in. Again, the occurrence of spontaneous ulceration over a cutaneous nævus may be regarded as warranting the expectation of a natural cure.

Arterial, that is, a pulsating nævus, Mr. Smith has never seen in a child, and he much doubts if they are ever met with. Having no personal experience to guide him, he does not venture to attempt to teach from the scanty materials afforded by others.

Treatment of cutaneous nævi.—For the more exact description of the treatment suitable to these he divides them into (*a*) the prominent, (*b*) the flat (either of these may be circumscribed or diffuse), and (*c*) the pedunculated.

(*a*) *Prominent cutaneous nævi* are generally very florid, and are entirely composed of vascular tissue, the proper texture of the skin being destroyed; there is often a considerable thickness of the diseased tissue, though it does not extend subcutaneously. They may be destroyed by caustic potash, Vienna paste, the strongest nitric acid, or by ligature,

since there is no object in saving the deeply stained and morbid integument. It is advisable to select some plan of treatment that will in one application completely destroy the growth. If the disease, therefore, be circumscribed, circular or oval in shape, and situated on any part of the surface, except some parts of the face, you will find the ligature a speedy and certain method of cure. If the growth be of moderate size, say not larger than a penny, two harelip needles may be passed beneath it at right angles to one another, their orifices of entrance and exit being just where the nævous tissue joins the true skin. Beneath these a well-waxed and strong ligature of twine may be tied, being drawn so tight that the surface of the nævus assumes a ghastly pallid hue. The ends of the needles being cut off, the whole may be covered with a piece of cotton wool, and allowed to remain until the needles and nævus fall off; this generally occurs at the end of a week. The nævus should not be pricked to let out the blood while the ligature is being tightened, since this to a certain extent relieves the strangulation and diminishes the efficacy of the treatment. Should the nævus be too large to be included in one ligature, a needle may be passed beneath the base carrying a double thread, and thus the growth may be strangulated by two knots, each surrounding half the tumour. There is a method of treating this variety of nævus, devised, Mr. Smith believes, by Mr. Gay. It consists in passing harelip pins through the sound skin beneath the growth, cutting the growth entirely out, and then applying the twisted suture over the ends of the pins, thus at once closing the wound and arresting hæmorrhage.

Prominent cutaneous nævi, when irregular in shape or ill-defined in their boundaries, are best attacked by nitric acid, as this can be applied with a glass brush to the very smallest spots of diseased tissue without injuring the surrounding skin.

(*b*) *Flat cutaneous nævi*—that is, such as do not project beyond the surface and have no depth of tissue—may, if circumscribed, be treated by vaccination, by nitric acid, Vienna paste, or the actual cautery.

The flat cutaneous nævi vary much in depth of structure and in intensity of colour; they are sometimes extremely superficial, and only affect the very surface of the cutis, and do not extend into its substance. They might be called erythematous nævi, since they stain the surface like a blush. They are often spread over large surfaces. Mr. Smith has only seen the erythematous nævi on the back of the hand, on the arm, the neck, and the face; but I know of no reason why they should not occur on any part of the external surface. Fortunately, this kind of nævus is peculiarly liable to disappear with advancing growth. Should it remain, however, and by its position cause any serious blemish, the surface may be frequently painted with collodion,* or a small portion of the discoloured skin may be painted with blister-fluid to try its effect. It is to such a nævus as this, but more vivid in colour, that tattooing may be employed—a plan introduced and recommended by M. Paul de Landau. The skin should be stretched tightly between the fingers and thumb to control the hæmorrhage,

* Though this is a promising remedy, yet I am bound to say that I never saw any good results from its employment.

and a multitude of small punctures being made with a common sewing needle, finely powdered oxide of zinc, or calcined magnesia, may be rubbed in, the process being repeated until the skin has regained its natural colour.

The diffuse and spotted cutaneous nævi are best treated by nitric acid dotted on to the diseased points of skin.

Very minute cutaneous nævi may be cured by tightly stretching the skin, incising the spot with a small crucial cut, and touching it with nitrate of silver.

Subcutaneous nævus may be either (*a*) circumscribed or (*b*) diffuse. (*a*) In this form of the disease, when the entire growth is situated beneath the skin, it is important to preserve the latter uninjured, and for this reason the following remedies are suitable:—The injection of coagulating fluids, such as solutions of perchloride of iron or tannic acid; the introduction of setons steeped in the perchloride solution; breaking up and introducing probes armed with nitrate of silver; or complete excision, may any of them be employed, according to the size and situation of the nævus and the predilections of the surgeon. The most elegant method of cure is by the injection of solution of perchloride of iron, since it inflicts but a single puncture. It is difficult, however—first, to be certain that the fluid will flow into the nævus; and secondly, if it flows, to regulate the quantity. It may be used where it is of great importance to avoid all trace of treatment. It should not be employed to nævi about the head, face, orbit, and neck, except under conditions to which I will hereafter allude.

Perchloride of iron may more certainly, though less elegantly, be introduced into a nævus by drawing through the growth setons steeped in the solution. The thread employed should be darning cotton, on account of its absorbent properties; and the needle should be large in proportion to the thread, in order that the needle-hole in the cutis may allow the thread to pass through, without squeezing out the perchloride solution. In a circular nævus three, four, or more of these threads may be passed through the centre of the growth, so as to form the radii of a circle. In an oblong or irregular-shaped nævus they may be drawn through side by side half an inch apart. While passing the threads, one finger may be kept lightly over the aperture of exit, and over the track of the thread, so as to squeeze out as much of the solution as may be thought fit. These setons may remain in for six or seven days.

Subcutaneous incision, so as to break up the nævous tissue, is a good method of treatment for subcutaneous nævi: breaking up, together with the introduction of nitrate of silver, is a better; it turns the nævus into an abscess, and is an excellent remedy for the large subcutaneous nævi that occur about the trunk.

Complete removal of a subcutaneous nævus is quite possible, and not more dangerous than the removal of any other tumour, provided always that the growth is circumscribed, and that the incisions are not carried into the diseased tissue. A growth thoroughly suitable for removal by the knife is rarely met with; and should such a nævus present itself it would be easily curable by injection, by nitrate of silver, or perchloride seton.

A diffuse subcutaneous nævus—*i. e.*, one where a certain or rather an

uncertain, area of subcutaneous tissue is spotted about here and there with vascular growths—is unsatisfactory in the highest degree to treat. In these cases it is better to wait for a cure by nature, since it is far more likely to occur through lapse of time than by your efforts.

Mixed nævi, as well as being the most common forms of the disease, are rather more difficult to cure than the former varieties. This is apparently because they receive their blood from so many sources, the deeper as well as the cutaneous vessels being channels of supply.

Pendulous nævi are rarely met with. They are very vascular, easily bleed, and generally hang by a slender stalk. Mr. Smith has had but one under his care. It was just the size and colour of a large raspberry. It was ligatured at its base, and the root being touched with nitric acid, it completely disappeared.

There are certain parts of the body where the general rules applicable to the treatment of the different kinds of nævus must be modified so as to suit the peculiar requirements of the part.

The scalp and forehead.—Here nævi may be sometimes advantageously treated by pressure constantly maintained by means of a piece of lead, or a small coin stitched into an elastic silk band, or by means of any other device for exercising pressure that may suggest itself to the surgeon. It is a somewhat wearisome means of cure, and can only be successfully carried out with the assistance of an intelligent mother or nurse, who must be able to readjust the apparatus when displaced.

Nævi over the fontanelle should be more cautiously treated than elsewhere—*i.e.*, injection or perchloride setons, if used, should not penetrate very deeply. Mr. Smith has treated many in this situation successfully, but should always prefer to wait until the fontanelle be either quite closed, or at all events until ossification had taken place beneath the nævus.

The only case of nævus that has died under his hands in consequence of an operation, was one situated in this region, where death occurred from sloughing after the introduction of perchloride setons.

Face.—The treatment of nævi in this region by the injection of perchloride of iron has more than once been followed by instant death.

In the *London Medical Gazette* of 1837 the following case is reported by Mr. Paget, of Leicester:—A child, aged two years, suffered from a mixed nævus, as big as half an orange, over the right upper jaw. The growth was principally subcutaneous. On two occasions the nævus was pierced with a lancet, and a mixture of one drop of nitric ether with fifteen of nitric acid was injected. As this produced no effect, on the next occasion a small quantity of liquor ammoniæ was injected, the solution being so diluted that it could be smelt without its pungency being disagreeable. The instant that this fluid was injected, the child had one slight convulsion and was dead.

Two similar cases were reported by Mr. R. B. Carter in 1863.

An infant under Mr. Smith's own care was seized with difficulty of breathing a day or two after injecting a subcutaneous nævus on the face with perchloride of iron. It died, and after death exhibited

symptoms of what is termed lobular pneumonia—*i.e.*, the lung-tissue was consolidated and apparently inflamed in patches. It is not impossible, in this case, that a small quantity of the perchloride had got into the circulation—too little to cause general coagulation of the blood in the right side of the heart, but enough to produce embolism in the pulmonary capillaries.

In any case, sufficient is known of the effect of the possible admixture of perchloride of iron with the general circulation, from injecting nævi on the face, to justify us in rejecting it as a remedy for nævi in these parts, unless, by pressure or by the employment of some instrument, the circulation in the growth is controlled, at least for a time.

Eyelid.—There is an admirable instrument (the ring forceps) for grasping the eyelid and commanding the circulation of a nævus situated on this part. The growth, when thus surrounded, may be injected, treated by introduction of the nitrate of silver, or in any other way thought desirable, though ligature is not well suited for nævus in this locality.

Conjunctiva.—The only advice Mr. Smith has to give concerning the treatment of nævus in this locality is to leave the growth alone if it affects the ocular surface of the membrane.

The *lip* is often affected with nævus on its mucous edge. During the application of any remedy, the circulation can easily be controlled here with a hare-lip instrument or the ring forceps. The growth should, if possible, be attacked from the mucous surface of the lip.

The *ear* and the *nose* are very unfavourable localities for the cure of nævus. When the disease extends through the entire thickness of the cartilages, as it frequently does, painting with strong nitric acid has given him the best results. Should the nævus be in the form of a tumour, it can be ligatured advantageously.

It is a question with some when a child is largely blotched over the face with a highly-coloured cutaneous nævus, whether the crimson stain of the disease should be exchanged for the dead-white mark of a caustic. Mr. Smith is in the habit of treating these nævi at their most highly-coloured parts with nitric acid, as he is certain that, in an adult, no mere disfigurement, apart from real deformity, is so great as a plum-coloured or purple irregular stain over one side of the face. The acid should be painted on the most deeply-stained parts, and especially about the circumference of the nævus. He can strongly recommend this plan from repeated experience of its efficacy, and the satisfactory results it produces.

Nævus on the mucous surfaces—such as the gums, the vagina, and the rectum—is generally of the cutaneous variety. It may be cured by the application of nitric acid. Those in the rectum often give much trouble, from their great tendency to bleed; and unless this symptom was present, Mr. Smith should be loth to interfere, on account of the contraction that might follow the application of the caustic. However, when hæmorrhage occurs, nitric acid may be applied freely, so that if possible one application may be sufficient.

Art. 265.—*Lancing the Gums in Childhood.*

By F. H. Thomson, M.D.

(*Glasgow Medical Journal,* October, 1867.)

From time immemorial it has been the habit amongst practitioners of every class to assist the irruption, as is supposed, of teeth in children, by cutting down upon these organs. Of late years, however, a much more reasonable and rational practice has been followed. By cutting down upon the tooth you simply relieve, to a small extent, the tightened integuments, from which all circulation has been expelled. The cut of course heals up immediately, leaving a hard eschar, which complicates the symptoms and makes it more difficult for the tooth to make its way through.

The irritation arising in children during teething does not so much take place from the above pressure as from the engorgement of the vessels supplying their circulation, and which are in a great state of activity at these times. A sure mode of relief is to open these vessels, which will be found in all such cases much engorged. They should be cut low down at the reflected junction, between the lip and the gum; —instantaneous relief follows, even in the case of convulsion fits.

Art. 266.—*On the Treatment of Whooping-Cough by Inhalation of Bromide of Potassium.*

By Dr. Helmke, of Jena.

(*Jena. Zeitschrift f. Medizin,* 1867.)

During the autumn of 1866, Dr. Helmke treated successfully, by inhalation of a solution of bromide of potassium, twenty-three children suffering from whooping-cough. He used a solution of two grains of the salt to an ounce of distilled water; from one ounce to one and a half of this was used in the course of a daily sitting, lasting on an average for eight minutes. All the twenty-three children, varying in age from one and a half to eleven years, were at the commencement of the treatment in the early stage of the convulsive period attended with frequent attacks of coughing, the daily number of which varied from ten to twenty. The following propositions on the general action of bromide of potassium are laid down by Dr. Helmke:—

1. The salt acts as an anæsthetic on the mucous membrane of the mouth, larynx, and trachea; for most of the children who had previously felt considerable tickling sensations under the sternum and in the larynx before each attack of coughing, stated, after a short time, that this sensation was either removed or was no longer experienced so frequently as before. The irritation of the cold air or strong inspiration and expiration had no longer the same result as at an earlier

period, and increased irritation was necessary for the production of an attack of coughing.

2. It acts as a slight astringent, and diminishes the tenacity of the mucus, for the expectoration, instead of consisting of thick and abundant mucus, becomes after a time less excessive and loses its ropy character.

3. As a result of the above-mentioned change in the condition of the mucus, which can now be more readily expectorated, the duration and intensity of each attack are lessened.

4. The cure demands from eight days to three weeks, the time always depending upon the attention paid to dietetic directions, and upon the severity of the anatomical changes.

Art. 267.—*On the Treatment of Empyema in Children.*

By Thomas Hillier, M.D., F.R.C.P., Physician to the Hospital for Sick Children, and to the Skin Department of University College Hospital.

(*British Medical Journal*, August 3, 1867.)

Dr. Hillier says when pus exists in the pleura, as a general rule the sooner recourse is had to paracentesis the better. Even when the effusion is not purulent, if the pleura is much distended, and dyspnœa is increasing, in spite of diuretics and counter-irritation, it is unadvisable to postpone the operation. If the emphysema be of very long standing, and the dyspnœa be not great and rather on the decrease, it is better to leave the case to nature, and the purulent collection will probably excite no irritation, and its fluid portion may be absorbed. In one case of this kind, in a boy five years old, where the disease was of three years' standing, Dr. Hillier operated with the patient's chest under water. The lung, which had been long collapsed, was atrophied; a communication was established between the bronchi and the pleural cavity. This caused decomposition of the contents of the pleura, and the patient died in a fortnight of irritative fever. Of seventeen cases of empyema, in six there were spontaneous openings or pointing of matter requiring operation. Of these five recovered with permanent fistula; the other died, after fourteen months, with necrosis of the sternum and amyloid degeneration of the viscera. In eleven cases paracentesis was performed; of these, six recovered completely, one had a permanent fistula, and four died. Of the four fatal cases, one was a child only five months old, who died of collapse of the lung; one was twelve months old, and died of pneumonia; one was the child referred to above; and another died of septicæmia.

Dr. Hillier believes it is of great importance to prevent the entrance of air into the pleura. He once put the patient into a warm bath, and opened the chest under water. The result in this case (above mentioned) was not due to the mode of operation. In some cases he has evacuated the contents of the chest by means of a long,

narrow elastic tube, whose fine end opened under water. Unless air is admitted, and if the lung does not expand very readily, the contents of the cavity are but very partially evacuated. To promote more complete evacuation, the employment of an exhausting syringe, as recommended by Dr. Bowditch, is of great service. Of the last six cases in Dr. Hillier's wards at the Children's Hospital, in which this syringe has been used, five recovered, and only one died. This was a child twelve months old, who died of pneumonia. He had been previously leeched on his head at a London hospital, and when admitted was extremely anæmic and exhausted. These results are probably more favourable than one can usually expect to meet with. Of Bowditch's cases, in twenty-six the fluid was serous, and twenty-one recovered; in twenty-four it was purulent; of these eight recovered, nine were relieved, and seven died.

Dr. Hillier appends a short sketch of his successful cases, and subjoins the following conclusions:—1. That paracentesis thoracis is not a dangerous operation in children; if performed early the chances of a favourable result are very great. 2. The cavity should be evacuated as completely as possible without the admission of air, and then closed. If the contents of the cavity become fœtid a counter-opening should be made, and a drainage-tube introduced, as recommended by Chassaignac and Dr. Goodfellow. 3. Injections of iodine tend to diminish fœtor, but have no effect in promoting the closure of the cavity. 4. Change of air, nutritious food, and tonics, are the main agents in favouring recovery. Very great deformity of the chest from contraction after pleurisy in children may be completely removed if the lung have not been too long disabled by compression.

Art. 268.—*A Case of Obscure Infantile Cerebral Disease.*

By William M. Chamberlain, M.D., Physician to the Demilt Dispensary, New York.

(*New York Medical Journal*, July, 1867.)

The following case illustrates some of the difficulties attending the diagnosis of infantile cerebral disease. F—— was nineteen months old on the day of his death. In July, 1866, when about nine months old, he had some form of pulmonary disease, at the country home of the family. It is said to have been pneumonia, and to have been the occasion for a large amount of medication. Excessive pallor was remarked by the physician in attendance. He was largely blistered upon the anterior surface of the left chest, but he made a fair recovery, and returned to town in October.

My first visit, October 22nd, was on account of some slight and transient febrile disturbance attending the pressure of a tooth. I remarked upon his pallor, heard the foregoing history, and advised open air exercise. My second visit was on the 9th of December for a bronchial catarrh with fever, which was soon relieved. On the 1st of January, 1867, his mother informed me that since the last attack his cough had

not entirely left him, and was becoming more troublesome. Inquiry into the matter made it probable that he had whooping-cough, which a few more days proved to be the case. The whoop became distinct, and the paroxysms rather frequent. Upon the 13th of January I put him upon treatment by tincture of belladonna, one drop three times a day. Each dose was to be increased daily by one drop, until some evidence of its effect should be seen. On the fourth day, when taking five drops, three times a day, moderate atropism became evident. There was no cerebral disturbance, and no dilatation of the pupil, but the fauces were very dry and red, and a brilliant erythema, finely papular, overspread the front of the chest, the neck, and face.

The belladonna was immediately suspended, and the specific effects passed off in a few hours.

No whoop was heard afterwards, and the convulsive character of the cough was at an end. It continued as a catarrh a week or more, gradually declining.

By the 25th of January the child was apparently well, actively engaged in his play, which he would contentedly pursue by himself upon the carpet, and running about the rooms of the second floor as rapidly as mother or nurse cared to follow. His pallor, however, continued, and he would sometimes have an ephemeral feverishness common enough in the convalescence from whooping-cough. He was also indisposed to go to sleep at night. He lay by the side of his mother, nursed frequently and long, and in the intervals would lie awake quite easy and generally quiet, looking at the gas light. Often, when this vigil had continued far into the middle of the night, the nurse would take him to the fire-side, where he would sit upon her lap, play with his own feet, or with her dress. He was never peevish, morose, or taciturn, but uniformly gentle and happy, to all appearance free from any lurking form of irritation. When finally he did sleep, it was soundly and sweetly, no heat of the head, and no apparent dreaming. He would, however, often grind his teeth, and had a habit of gently stroking the sides of his head with his open palms. During his previous bronchitis I had given him powders of one grain of Dover's powder and two of nitrate of potassa, and now they were found to control this sleeplessness. One, or two at most, would have the desired effect, and he took them nightly for some time. His appetite was pretty good and his digestion perfect. If ever his bowels failed of their usual perfect regularity, part of a baked apple would excite them.

There was nothing about him to provoke remark except the pallor and the evident fact that he was not very strong. To meet the indications thus afforded, I directed that he should have a dessert spoonful of Nichol's elixir of bark and protoxide of iron, a palatable and highly efficient tonic, and also advised beef-tea daily.

Upon the 11th of February he was as well as usual, and had spent most of the afternoon in the library with his nurse, but when at about 4.30 p.m. his mother came down to see him, she found him somewhat feverish, and breathing rapidly. So rapidly did the dyspnœa increase that when I saw him, one hour later, æration had become very imperfect, as shown by his livid lips and dusky face. Mechanical respiration was not obstructed, but all the bronchi and the vesicles on both sides were

full of fluid. No exposure or catarrh had preceded this sudden suffusion of the lungs, but, as I afterward learned, there was, at its invasion, a slight spasm of the facial muscles, such as at a later day became frequent. It was directed that his whole thorax should be enveloped in warm turpentine stupes, and a full dose of castor oil given.

Pending the result of these measures, Dr. Jacobi was called in counsel. Dr. J. noted some apparent enlargement of the anterior cervical glands, some redness of the fauces, and, in view of his general condition, advised that quinine should be given in doses of two grains, three times a day. About nine p.m., the oil acted freely upon the bowels, and the remaining dyspnœa was much relieved. He passed a pretty good night. Moderate counter-irritation was kept up for several days, and quinine continued until he had taken fifteen grains; after which he resumed the use of the elixir of bark and iron. Beef-tea, finely minced beef, and milk-punch were added to his daily diet, and it was advised that as soon as the pulmonary symptoms should subside he should be taken into the fresh air daily, and should be gradually weaned. These suggestions were fairly carried out.

A day or two before the coming on of this pulmonary suffusion, it was noticed that the great toe of the right foot was much swollen. It was slightly warmer than its fellow, and a little red, but not apparently painful. While urgently ill, this was not specially considered, but as he recovered it was seen to persist and increase, until it became three times its natural size, and of a bony hardness. It was no longer red; no apparent cause existed. Elastic compression, by winding it with soft worsted yarn, for several days, restored it to its natural size and shape. The enlargement could not have been in skin, muscle, or tendon. It must have been aponeurotic or periosteal.

The condition of the child now palpably improved. His nights were still apt to be wakeful, and day and night he would occasionally grind his teeth in a way disagreeable to hear. His extreme pallor continued, and his strength upon his feet was, perhaps, rather insufficient. But he was uniformly happy and playful, without any symptom of constitutional irritation or suffering.

This condition continued until the second of March, when his mother mentioned that he had passed an unusually restless night, and I cut the gums over the lower molars, and ordered three drops of the tincture of the sesquichloride once in six hours and two grains of quinine daily.

Upon the 4th of March, I was called again on account of this disturbance of the kidneys. Nothing morbid was found in his urine, neither albumen, phosphates, or sugar, and only a slight excess of mucus. When I next saw him the excessive secretion had ceased, and no special medication was suggested.

Thursday, March 7th, nine a.m.—Was called to see him, and found him lying on a sofa, his head raised on a pillow, eyes completely closed, and all his muscles relaxed; the lower jaw dropped, the masseter flaccid, the tongue lying broad and flat on the floor of the mouth, the hands open, prone, and stretched along his sides, the carpal arches relaxed, and the metacarpal bones gliding on each other as if there were no muscles between them.

His limbs when raised, dropped unresisting without consciousness, as

in profound anæsthesia. Respiration was noiseless, even, regular, about twenty per minute. The lips were well-coloured—the skin was soft and warm, and upon the brow, in the folds of the neck and the palms of the hands, it was moist.

The fontanelle was about normally full; there was no heat of the head, no rigidity of the posterior cervical muscles; the head lay wherever it was turned. The pulse was about 100, full and soft. He was profoundly asleep, and had been so for nearly eighteen hours. During the night this had not attracted attention, but, in place of his usual morning sprightliness, he had fallen asleep while being washed upon his mother's lap. The bowels had moved spontaneously the evening before, the fæces were somewhat clay-coloured, the kidneys were acting freely but not excessively. He had taken a full supper and some breakfast. There had been no vomiting. Upon lifting the eyelids, the conjunctiva was entirely free from injection, the eyes were exactly parallel, and the pupils closed down promptly.

There was perfect symmetry of muscular action about the face and throughout the body.

He could be roused with difficulty, and when so could sit unsupported on his nurse's arm, and for a few moments be diverted at the window, but fretted constantly and soon dropped off to sleep again.

Regarding the symptoms as indications of nervous depression, I directed that beef-tea and milk punch should be given at frequent intervals during the day, that he should be taken, warmly but loosely dressed, upon a pillow for a long ride in a carriage with open windows, and that if the somnolence continued, it should not be broken except to give him food. At six p.m. Dr. Jacobi saw him with me in consultation. We were told that he had hardly wakened spontaneously through the day, but had taken three or four teaspoonfuls of brandy in milk punch, beef tea, and a teacupful of pap without apparent aversion. His bowels had acted once spontaneously, movement somewhat clay-coloured; urine free. In every particular his condition was similar to that of the morning except that somnolence seemed somewhat less profound. In reviewing the case, it was agreed that there were no evidences of meningeal complication, and that the disturbance was bilateral and general.

Against the view that it was essentially cerebral anæmia, was the fact of its sudden invasion, the lack of any preceding drain upon the system, the perfection and balance of the circulatory, nutritive, secretory, and excretory functions, the even fulness of the fontanelle, and the long-continued roborant treatment, under which the child had apparently been improving. Against the view that it was either acutely or cachectically inflammatory in its nature, were the absence of exciting or diathetic causes, and the equal absence of any general febrile movement. As to toxæmia, narcosis, compression, or concussion, there was nothing in his condition to suggest either of them.

It was evident that the child was in a very critical condition, yet no positive diagnosis could be attained.

It was agreed to continue his quinine, brandy, iron, and animal food, and to await further developments.

Friday, March 8, 10 a.m. His condition seems somewhat improved;

is less somnolent; skin, bowels, kidneys, all act normally. He is still much too ready to sleep, and restless and fretful when awake.

On March 8th, Dr. Halstead saw him with me. After a full statement of the history and phenomena of the case, it was his decided impression that it was one of cerebral exhaustion, and that the use of stimulants should be pushed. Accordingly, it was directed that an ounce of wine whey every two hours should be added to his other food.

Dr. Halstead saw him again with me at 10 a.m. on Saturday, the 9th of March. At that hour his condition was exceptionably favourable. He was awake and in full possession of his faculties. His functions were reported to us as all normal. There was nothing but somnolence, fretfulness, and muscular relaxation to strike any observer. We question whether there was or was not a slight risus sardonicus on the right side of the face, a trifling œdema of the right under eyelid. There was no heat of the skin, wild expression of the face, phrenitic cry; neither contraction, dilatation, or sluggishness of the pupil; no uneasy movement of the head, neither constipation, diarrhœa, or vomiting. There seemed to be no reason for changing the treatment, and it was continued with the full measure of nutrients and a little less stimulus. After a ride to the park, during a part of which he remained awake, he had a little better colour and some return of his natural vivacity. He also ate very well. In the afternoon he recognised his father coming up the street, called to him as he opened the front door, and opened and shut the cases of his watch.

Upon the whole, his excessive somnolence having passed off, and no new symptoms having developed, I was inclined to regard the whole matter as some form of shock to the vis nervosa, and to think him convalescent. Treatment continued.

Sunday morning, March 10. He is again as profoundly asleep as on Thursday last, and it is quite as difficult to rouse him. His mother said that though he had apparently slept all night, he had been uneasy until 3 a.m., frequently stroking the sides of his head, boring his fingers into his ears, catching at the clothing of the bed and drawing it into his mouth. There was now some disturbance in the symmetry of the fascial muscles. His mother said that his feet had refused to support him. There was no heat of the head, the fontanelle was naturally full, the pupils of normal size, active and equally so, the pulse 112, the respiration easy and full, the urine free. For twenty-four hours there had been no movement of the bowels, and, on account of his stupor, it was more difficult to get him to take food. Ordered the bowels to be moved by enema, and the general treatment continued.

At 5 p.m. Drs. Halstead and Jacobi saw him with me. The enema had produced a full dejection of natural appearance. His condition was the same as in the morning, except that there was well-marked, though slight, tonic contraction of the right levator labii sup., and a slight occasional twitching at the right angle of the mouth. Sometimes a fixed and staring gaze into vacant space, as if he did not see. Occasionally a sighing inspiration; the left arm and leg were said to have been comparatively motionless through the day—the right active. The general cutaneous sensibility was perfect, the calorific function undisturbed, the fontanelle normal. Less food had been

taken, because less spontaneously. We consider the disturbed balance of the muscles, the sigh, and the failing power of the feet, as evidence that disease was advancing upon the meninges of the brain and cord, and agreed to carry derivation in one hand and support in the other.

One grain of calomel was given at six p.m., and a pill of one-fourth of a grain of podophyllin at 8, to be repeated once in four hours. At 11, five grains of iodide of potassium, in solution, were given, to be repeated once in four hours.

Monday, March 11th. There was a well-marked convulsion last evening about nine o'clock. The eyes were so strongly rotated to the right as almost entirely to eclipse the corneæ, the mouth pushed up by a strong contraction of the orbicular muscle, the lower jaw rigid. It lasted but a short time and was not repeated. This morning there is no trace of spasm; the movements of the left side compare with those of the right in frequency and force; the skin and kidneys are acting normally; the pulse is 112. The medicines ordered have been given as prescribed. The bowels have moved freely three times; dark olive-green dejections; no increase of urine reported; fontanelle normal. Ordered a pill of one-fourth of a grain of podophyllin once in six hours, and five grains of iodide of potassium once in eight hours; nutrient treatment continued.

Six p.m. Is decidedly more wakeful. Bowels have moved but once. Spasm of the face has not returned. Action of all the muscles symmetrical. Continued treatment.

March 12th. Dr. Halstead saw him with me. There is now again profound somnolence, pulse even, regular, 120. Skin normal, urine free, no spasm, fontanelle rather depressed than full, no apparent irritation of the nervous system.

Wednesday, a.m. No marked change. There have been nine full movements of the bowels in the last fifty-six hours; the urine is more abundant. General condition good. Suspended cathartics and continued support.

At 2 p.m. I was called to see him, because at eleven, after taking beef tea, he had vomited, and continued to do so until half-past twelve. The quantity ejected I judge to have equalled all that had been taken for the previous twelve hours, showing that there had been little or no absorption from the stomach. Up to the time of vomiting he had been fed with beef tea assiduously every two hours, and had taken nearly a drachm of iodide of potassium.

Five p.m. Dr. Halstead in consultation. Somnolence has returned. Eight p.m. Dr. W. Hammond saw him with me. He was sleeping quietly. Skin cool and soft, without flush or duskiness. Symmetry of features and expression perfect; muscular power even and very good. Fontanelle depressed; condition otherwise as before described. Dr. H. remarked, "This appears like the sleep of perfect health." After careful examination he felt confident that there could be no disease of the brain; certainly not meningitis, or any form of inflammation. In short, he took the view which had at first impressed Dr. Halstead and myself, that the essential difficulty was cerebral exhaustion, and thought support, attention to the functions, and warmth to the

head, the prominent indications. Lest the stomach should again fail to retain food, nutriment was given by the rectum at intervals of two hours through the night.

Thursday, a.m. Symptoms of meningeal trouble have again appeared; the face is drawn to the right, occasionally his mouth is pushed up, and with a wild stare he utters a short, sharp cry. Fontanelle decidedly depressed. Ordered potass. acetat. 5 grains, and spts. ætheris nitrosi gtts. 15, every three hours. The bowels continue to be moved about once in seven hours; pulse 102.

Five p.m. Dr. Halstead saw him with me; the symptoms of the morning continue. Ordered 1 gr. of hydrarg. chlo. mit. every two hours. The quantity of urine is estimated at three times the amount of fluid taken. Pulse falling. 98.

Friday, a.m. Symptoms more unfavourable. Spasms now involve the limbs, the legs are crossed, and the toes fixed; pulse 92. P.M. Much the same. Spasms return once in half an hour and are more decided. Fontanelle is fuller. Since last night his face and entire body have been covered with vivid crimson patches of crescentic and circular form, with intervals of naturally-coloured skin; the appearance is very like that of a full and vivid eruption of measles; pulse 88, small and sharp. Fontanelle convex; has taken 8 grs. of the submuriate; bowels freely moved twice.

Saturday. The eruption has entirely faded, the whole surface is hot and dusky; the pupils are dilated and immovable, the sclerotic injected, the spasm very frequent, the fontanelle arched and tense, the pulse 120 and unequal, respiration constantly more difficult.

He died at 11 a.m. on Sunday. There can be no doubt that for the last three days there was active meningeal effusion, probably beginning in or near the fourth ventricle. But what is the key to the earlier history of the case? Unfortunately no autopsy could be obtained.

APPENDIX.

Art. 1.—*The Contagious Diseases Act in Relation to the Civil Population.*

(*The Lancet*, December 7, 1867.)

"A movement is now fairly afoot to seek for the extension of the operation of the Contagious Diseases Act of 1866 to the civil population at large. It is in contemplation to appeal presently to the Legislature to effect this object. Now, whilst on the one hand it cannot be denied that many statesmen and others high in official position are in favour of such a step, if it can be taken in an unobjectionable manner, yet on the other hand there exists on the part of the War authorities a disposition to question the beneficial operation of the Act. At present it takes form in the affirmation which has been constantly made on several occasions of late, that a sufficient amount of data have not as yet been collected in order to judge of the value of the Act in the prevention of venereal disease. We purpose to comment upon some statistics which seem to show that where the Act is worked efficiently the best results have already been obtained, and that in the instances where it appears to have failed this is accounted for by the imperfect mode in which the Act has been employed. This is important, because Parliament ere it could sanction any extension of the Act to the civil population would require to have it satisfactorily proved that good results are not only capable of being but have already been achieved, and that over the limited area where the Act is in operation. Let us take the case of Plymouth and Devonport for our examination, because here the Contagious Diseases Act was first put into operation in April, 1865, and because it is an isolated district, so to speak, and free from fluctuation as regards the number and character of prostitutes in it. A very remarkable state of things is noticed here. In the case of the navy the amount of disease, which at the outset was in excess of that of the army, has steadily diminished from 21 to 1 per 1000. In the army it has fluctuated from time to time. In 1865 it amounted to 12, rose in March, 1866, to 28, fell in August to 12, rose in September to 21, fell in December to 10; and in 1867 rose from 10 in January to no less than 35 per 1000 in September. In the case of the marines a mid course is observable.

"It is no doubt true that in the navy more men are married, residence is different, and, if we are correctly informed, more facility is given in the working of the Act; whilst the occasions of infection are not quite the same in the sailor as in the soldier, which may account, in some degree, perhaps, for the comparative difference. The influence of accumulated pay in leading to temporary augmentation of disease is very strikingly manifested in the case of the troops at Manchester, where the Act is not in force. A regiment recently arrived from New Zealand free from disease, has now the largest amount of venereal of any regiment in the

service. But in such a case as that of Plymouth, where soldier and sailor are placed in pretty much the same circumstances as regards the chance of getting disease, the very marked contrast in the amount of venereal in the two services, extending over a long period, can only be explained on very special grounds. There seems to be little doubt that the arrival of regiments from Aldershot and other places in which syphilis exists introduces a fresh supply of virus to the women, and so leads to the increase of disease. The importation of fresh regiments and the rise in the percentage of admissions into hospital amongst the soldiers apparently coincide; and when this is the case the navy feels the new influence to a slight degree, as seen in the chart. When a ship arrives home she is generally clean, and hence the influx of sailors does not tend to the same result as in the former case. This fact, if true, reopens the question of instituting a rigid examination of men upon their arrival in, or before their transference to, towns where the Contagious Diseases Act of 1866 is in operation. If the importation of disease into Plymouth were prevented, a much more reliable result would be obtained, and no doubt the disease would be more markedly diminished.

"It is gratifying to note, in conclusion, that in Plymouth and Devonport no less than 30 per cent. of the prostitutes have been reclaimed. So that the Act has done good in two directions: in the prevention of actual disease and the reclamation of the notoriously immoral."

Art. 2.—*The Communicability of Cholera.*

(*The Lancet*, October 19 and 26, 1867.)

The communicability of cholera is still a vexed question. Neither the experiments of Thiersch nor the history of the dissemination of the pandemic as yet in progress have sufficed to set aside all doubt in many minds. The former, which seemed to show that cholera possessed a peculiar contagiousness, needed, it was thought by questioners, confirmation; more especially as subsequent experiments by Drs. Goldbaum, Guttmann, Baginsky, Stockvis, and others, led to negative conclusions. The latter, although showing that cholera in its recent westward extension had not broken out in any locality in Europe and the Western hemisphere, except subsequently to the introduction of the disease, or liability to the introduction from a previously infected district, was far from being so complete as to remove many difficulties. Thus the facts throwing light upon the probable or possible importation of the disease into Malta in 1865, to use Dr. Sutherland's words in our number of the 21st ult., "neither affirmed nor disproved the communicability of cholera." So far as the experimental proof of cholera is concerned, this question may now be considered as entirely set at rest by the experiments made by Dr. Burdon-Sanderson for the Medical Department of the Privy Council Office during the outbreak of the disease in London last year. As regards the historical evidence of the communicability of the

* Report by Dr. Burdon-Sanderson on the Experimental proofs of the Communicability of Cholera. (Fourth Report of the Medical Officer of the Privy Council, p. 434.)

disease, the doubtful instances must be read with the positive, in order that a just conclusion may be arrived at.

Dr. Sanderson's experiments, to the extent to which experimental proof is practicable, conclusively establish the communicability of cholera, and confirm Thiersch's experiments, while eliciting other important facts. He experimented on guinea-pigs, mice, hedgehogs, pigeons, and dogs. The experiments on all the different kinds of animals, except mice, yielded negative results. The experiments of Drs. Goldbaum, Guttman, Baginsky, and Stockvis on dogs, rabbits and pigeons, also failed to induce choleraic phenomena; but the conclusion which they drew from the failure was not warranted, for they overlooked the fact of a possible insusceptibility of certain classes of animals. Dr. Stockvis, however, experimented also on mice (how many is not stated), and obtained only negative results; but Dr. Sanderson shows that the communication of choleraic disease to these animals is not possible at all times. Certain negative results obtained by Messrs. Legros and Goujon by experiments on *rats* do not, as they suppose, affect the positive results brought about by Thiersch's experiments on *mice*, and are altogether set aside by Dr. Sanderson's experiments.

Let it be premised that Thiersch was the first to institute a series of experiments on the communicability of cholera with quantities of the assumed poisonous agent (the intestinal liquid) so small as presumably to be comparable with the amount which might be conceived to be liable to be introduced into the human body. He took fresh intestinal liquid and allowed it to decompose spontaneously with access of air. In the liquid so kept a weighed strip of filter-paper was steeped each day, and then dried in a current of air at the ordinary temperature. The difference of weight of the strip before immersion and after drying indicated the quantity of solid matter taken up from the liquid. By this means the material of the liquid was obtained in every state of decomposition. White mice were selected for experiment, and for this selection Thiersch gives the following reason: "Between the human organs of digestion and those of the mouse there is no important difference. The intestinal canal resembles that of man much more closely, for example, than that of the rabbit. Mice thrive on animal food quite as readily as on vegetable, and the functions of sanguification and nutrition are carried on much in the same way as in man. Moreover, mice are very voracious, seldom at rest, and appear to require a larger quantity of material to warm and nourish them than larger animals." The mice were experimented upon in pairs, and each pair received a prepared strip of filter-paper four days in succession. Fifty-five experiments were made on 110 animals, and with the result that the majority of those which had eaten of the filter-paper that had been soaked in the intestinal fluid which had been exposed from two to six days were seized with a choleraic affection, marked by diarrhœa, suppression of urine, and after death the presence in large quantity in the intestines of an odourless and colourless liquid, watery and flaky.

Dr. Burdon-Sanderson commenced his experiments on the 11th of August, 1866. He used either the alvine discharges of cholera patients or the contents of the intestines removed after death. The liquids thus obtained were always treated in the following manner:—

"The liquid was placed in a soup-plate, and introduced into a glass chamber communicating with a chimney in the laboratory, by which arrangement the possible diffusion of the poison of cholera in the air was prevented. It was then left to itself, excepting that in case it appeared that the liquid was much diminished by evaporation, distilled water was added so as to restore it to its original volume. In accordance with the method employed by Professor Thiersch, paper impregnated with cholera liquid was prepared daily as follows :—A sheet of the best Swedish filter-paper was divided by pencil lines into square inches. Of this paper so divided rectangular pieces were cut, measuring five inches by five inches and a half, so that each contained twenty-five squares, leaving a margin of half an inch along one side. Each piece so prepared was steeped by drawing it through the liquid, and, in order to do this conveniently, its free margin was seized by a glass clip, having blades five inches wide, similar to that employed by photographers, and great care was taken that the twenty-five squares not included in the clip should be evenly and thoroughly steeped. This having been accomplished, the superfluous liquid was allowed to drain off, and the paper was laid on a frame of glass, by which it was supported horizontally in the interior of a metal box, measuring six inches transversely in either direction, open at the bottom, and communicating at the top with a flue. In this flue a rapid draught was maintained by a large gas flame kept constantly burning, by which means air was made to pass rapidly over the surface of the paper, while at the same time the destruction of all volatile organic exhalations was insured. The time required for the complete desiccation of the paper varied according to the nature of the liquid as well as the state of the atmosphere. Thus it was found that paper steeped in distilled water regained its original weight on a dry day in forty minutes. Paper steeped in rice-water liquid, obtained from patients in cholera, was usually an hour in drying, whereas paper prepared with the more tenacious liquid usually met with in the stage of reaction could not be dried in less than three hours. Again, it was found that on damp days the operation lasted three or four times as long as on dry days, and occasionally it happened that the paper could not be dried at all. The weight taken up by each square inch of paper was then determined by the balance. The prepared square, which had been weighed in a watch-glass before it was steeped, was again weighed after desiccation in the same manner. The difference, of course, expressed the weight of solid matter taken up by twenty-five square inches. On damp days it is to be assumed that the numerical result given is in excess of the real weight of cholera material contained in the paper. As, however, it was not at the time thought expedient to use any other method of drying, the error could not be avoided."

Dr. Sanderson gives brief notes of the cases of cholera from which intestinal liquids were obtained, and details of the weight of cholera material contained in each square inch of paper prepared as above described. To the animals experimented upon were given definite quantities of the prepared papers, but we shall restrict ourselves solely to the results obtained by its administration to mice, these only being positive. The experiments upon mice were performed in the months of

September, October, and November. The results obtained during the two former months are thus tabulated by Dr. Sanderson :—

Number of Mice employed in Experiments on Cholera Liquids from Sept. 7th till October 15th, the Number of Doses of Cholera Paper given, the Number of Animals apparently ill in consequence, and the Number and Percentage of Deaths.

Nature of Liquid.	Number of Animals employed in Experiments.		Number of Doses given to each couple of Mice.		Number of Animals affected.		Number of Deaths.	
	Alvine Evacuations.	Intestinal Contents.	Alvine Evacuations.	Intestinal Contents.	Alvine Evacuations.	Intestinal Contents.	Alvine Evacuations.	Intestinal Contents.
Liquid kept								
Less than 24h. (1st day) . .	10	26	27	41	2	2	2	1
,, 48h. (2nd day) . .	—	22	—	42	—	8	—	7
,, 72h. (3rd day) . .	4	10	14	21	4	10	0	3
,, 96h. (4th day) . .	10	4	20	10	8	2	6	2
,, 120h. (5th day) . .	20	22	40	44	7	10	5	5
,, 144h. (6th day) . .	10	—	20	—	0	—	0	—
,, 168h. (7th day) . .	10	—	20	—	0	—	0	—
	64	84	141	158	21	32	13	18

On this table Dr. Sanderson remarks that the numbers given

"Do not at first sight suggest any very obvious relation between the *stage* of spontaneous decomposition represented by the paper employed and the results of the experiments. If, however, as in the following table, we substitute the *relative* numbers for the absolute ones, the significance of the facts becomes much more apparent :—

Percentage of Attacks and Deaths relating to each Day of Spontaneous Decomposition.

Period of Decomposition.	Per 100 Animals employed in Experiments.	
	Number affected.	Number that died.
First day	11	8
Second day	36	32
Third day	100	21
Fourth day	71	57
Fifth day	40	24
Sixth day	0	0

Dr. Sanderson adds :—

"As regards the mortality, the numbers do not seem to be conformable to any law. They merely show that the relative number of deaths was greatest among animals to which paper of the fourth day had been

given. But the criterion of the efficiency of any assumed cause of disease is evidently to be sought for, not in the *mortality* of the persons or animals subjected to its influence, but in their *liability* to attack. According to this acknowledged principle in etiology, we have to look for indications of the comparative infectiveness of the liquid at different periods, not in the number of deaths, but in the numbers affected. The significance of the latter, as given in the second column of the table, scarcely needs to be pointed out. They clearly show that the liability to attack was greatest as regards the third and fourth days, much less and nearly equal as regards the second and fifth days, and least as regards the first day. In some instances, however, the intestinal liquid appears to have attained its full virulence even as early as the second day, as may be inferred not only from the large proportion of deaths among animals to which second day paper was given, but still more strikingly from the high mortality (48 per cent.) observed in Experiments XIV. to XVII., in all of which the material used was given less than forty-eight hours after the death of the animal from which it was taken."

In the series of experiments above summarized, the fact is conclusively shown of the communication of a lethal malady to mice by the addition of exceedingly minute portions of the solid material of the intestinal fluid or the intestinal discharges of cholera patients to their food. No difference as regards infectiveness was detected between the alvine evacuations and the liquid removed from the intestines after death.

Further, an intercurrent series of experiments, conducted by Dr. Sanderson, showed that the intestinal fluids of mice infected by cholera discharges communicated a malady indistinguishable in character from that with which they were affected to other animals of the same kind.

A remarkable and most suggestive fact in Dr. Sanderson's observations was this,—that experiments made on mice during the month of November yielded negative results. This, Dr. Sanderson observes, "can scarcely be attributed to any other circumstance than the comparatively low temperature which then prevailed; for in every other respect the conditions of experiment were identical. It is specially worthy of note that not only none of the animals died, but that none of them showed the slightest signs of indisposition." The mean daily temperature during this series of experiments (3rd to 13th of November) was 40°·0; during the previous series (9th of September to 10th of October), 55°·9.

The characteristics of the disease induced by the poison in the mice were as follows:—(1) Loss of motility and excitability. (2) A remarkable diminution of temperature, even to the extent of twenty degrees below the natural standard. "So extraordinary a loss of temperature seemed at first," writes Dr. Sanderson, "so incredible that I was induced to believe that some error of observation had been committed; but repeated measurements confirmed the accuracy of the results. In general a low temperature was a certain precursor of death; but in two remarkable instances recovery took place after the animals had remained motionless, and apparently lifeless, with a temperature below eighty degrees, for more than a day." (3) Alterations in the

alvine discharges; the fæces, which in the normal state are firm and beaded, becoming softened, varying in consistency "from that of the excrement of the ox to complete fluidity, and in colour from olive-brown to intense dull-red—a fact which probably led Professor Thiersch to believe that they were stained with blood." The principal after-death appearance is thus described by Dr. Bristowe, confirmatory of Dr. Sanderson's more detailed description:—"The fluid in the intestines always contained detached intestinal epithelium, and sometimes an immense quantity of it. The cells were mostly separated from one another, but were sometimes in groups, as if they had come off in flakes either from the surface of the mucous membrane or from the interior of follicles. Such cells were met with even in the mucus extruding from the anus. There were also throughout the whole of the intestinal tract vast numbers of low vegetable organisms, some consisting of two joints and undergoing constant movement, others of several successive joints, and either moving or stationary (*Bacteria*, &c.)." Dr. Sanderson describes and depicts "rod-like bodies, resembling in form and structure the fronds of Oscillatoria, but devoid of colour, covering the field of the microscope. Along with these organisms, which possessed an active molecular motion, were occasionally found filaments and sporules of fungi."

Dr. Sanderson reports a series of experiments on mice, by Dr. Thudichum, the results of which confirmed those obtained by himself. The value of the positive results obtained by Dr. Sanderson in explanation of the fact of human infection is, in Mr. Simon's opinion, indisputable; and he adds some suggestive observations to Dr. Sanderson's report as to the uniformity, or absence of uniformity, of infectant power in the choleraic contagion under varying conditions of *time* and *place*. Referring to the influence of soil in relation to peculiarities of place, Mr. Simon makes the following important remark:—

"I must repeat my deep sense of the value of Professor von Pettenkofer's researches, adverted to in my last report, both as contributing new knowledge, and as suggesting right directions for inquiry. It appears certain that, henceforth, no local health-officer will be properly up to the standard of his scientific duties, unless he thoroughly knows the distribution and stratification of soils in the district for which he acts, nor unless he also maintains such systematic and exact observation of the height of wells as will enable him always to speak with precision as to the movements of water level in the soil: for it seems established that these are two great governing influences in relation to the spread of disease."

INDEX TO VOL. XLVI.

PAGE

Abdominal Injuries, on the importance of rest in. By J. R. Greenway 227
Abeille, M., on the means of obtaining the immediate organization of wounds, and consequently of preventing most traumatic accidents 175
Abortions, on the indications for manual interference and other agencies in the treatment of. By Humphry Sandwith, M.D. . 278
Acid, carbolic, on the action of, upon organic tissues. By Dr. Isidor Neumann 145
,, on the application of, to surgery. By Dr. Bottini . 144
,, sulphurous, as applied to wounds and sores. By James Dewar, M.D. 170
Ague, treatment of the congestive stage of. By Dr. Porcher . . 7
Albuminoid precipitate in the urine, note on a case of. By Arthur Leared, M.D., M.R.I.A. 93
Albuminuria, on the pathology of. By Dr. M. Semmola . . . 94
Alcohol, on the antiseptic property of, in fever. By Robt. Barnes, M.D. 140
Amaurosis, unilateral, on simulation of. By Alfred Graefe . . 201
Ammonia, chloride of, on the inhalation of the vapour in its nascent state. By Hermann Beigel, M.D., M.R.C.P. 135
,, hydrochlorate of, in senile gangrene. By Dr. Gru . . 136
Amyl, on the use of the nitrite of, in angina pectoris. By T. L. Brunton, B.Sc., M.B. 82
Anæsthesia, local, in earache. By Chas. C. Shoyer, M.D. . . 226
Anderson, Dr. M'Call, case illustrating the identity of eczema and lichen 114
Andrews, Dr. E., on the interior of the urethra viewed by a magnesium light 238
Aneurism of the femoral artery, treated by compression of the abdominal aorta. By Geo. Lawson, F.R.C.S. 263
,, of the right subclavian artery, treated by direct pressure on the arteria innominata. Under the care of Mr. Porter . . 257
,, traumatic, a case of, successfully treated by pressure. Under the care of Mr. Holmes Coote 262
Annandale, Mr., on sub-periosteal resection of the os calcis . . 273

PAGE
Anthrax, treatment of. By M. Guèrin 189
Arabum, elephantiasis, a case of, successfully operated on. By J. S. Thebaud, M.D. 238
Arlt, Professor, on a case of cysticercus cellulosæ in the interior of the eyeball, removal of the same by operation 204
Arnold, M., on hypodermic injections 122
Arteries, lingual, ligature of. By M. Demarquay 216
Artery, pulmonary, on the influence of contractions of the orifice of, upon the formation of pulmonary tubercle. By M. Lebert . 86
Atlee, Dr. W. F., a case of gunshot wound of the knee-joint, removal of the ball from the articulation : recovery 270

Bailey, Dr., on the treatment of ingrowing toe-nail . . . 275
Bandages, soluble glass. By M. Velpeau 130
Banks, Dr., on the curative virtue of milk 129
Barclay, Dr., case of granular kidneys ; rapid œdema of the glottis . 96
Barnes, Dr. Robert, cases and remarks illustrating the history of pregnancy complicated with small-pox. 296
,, ,, on the forceps 302
,, ,, objections to the single curved forceps, short and long 293
,, ,, on the obstetric hand 284
,, ,, on the antiseptic property of alcohol in fever . 140
,, ,, on the treatment and cause of difficult labour in pendulous abdomen 277
Bartlett, Dr. John, of Chicago, on poisoning by strychnine . . 119
Basham, Dr., report of a case of acute dropsy without albuminuria . 27
Becker, Professor, on a case of dislocation of the eyeball through a blow from a cow's horn 201
Beddoe, Dr. John, on the treatment of delirium tremens by cannabis indica 52
Behier, MM., and Jaccoud, on the alcoholic treatment of pneumonia 61
Beigel, Dr. Hermann, on the inhalation of the vapour of chloride of ammonia in its nascent state 135
Belcher, Dr. T. W., on impetigo 99
,, ,, on the treatment of scabies 97
Bell, Mr. Joseph, case of pulsating tumour in the orbit cured by ligature of the common carotid artery 202
Belladonna, does it produce a rose-red rash ? By Henry W. Fuller, M.D., F.R.C.P. 134
Bennet, Dr., on the treatment of pulmonary consumption . . 74
Biceps cubiti muscle, on the supposed luxation of the long head of. By M. Jargavay 256
Black, Dr., how to prevent pitting of the face by small-pox . . 28
,, Dr. J. R., on the treatment of chronic pharyngitis . . 88
Blacquières, Dr., on the treatment of sore nipples 229
Bladder and urethra, lodgment of a lead pencil in ; successful extraction through the perineum. By the late Thomas Walter Jones, M.D. 236
,, female, and urethra, on some of the diseases of. By J. Braxton Hicks, M.D., F.R.S. 305
Blake, Dr. James, case of obstinate vomiting caused by the presence of a foreign body in the uterus 304

PAGE

Böning, Dr., on the obstruction of the ear passage by ceruminous concretions 208
Bottini, Dr., on the application of carbolic acid to surgery . . 144
Bouchut, E., on spasm of the glottis 59
Bourgade, Professor, on the application of perchloride of iron to wounds 176
Bowman, Mr., on iridectomy in recurrent iritis 196
Brain, chronic abscess of, and cerebral tumour; the differential diagnosis between. By Dr. Rudolph Mayer 46
Breast, on the diagnosis of tumours of. By Thos. Bryant, F.R.C.S. 260
Brierre de Boismont, M., on moral insanity 46
Bromine poisoning. By Samuel Duffield, M.D. 116
Brondgeest, P. Q., on the treatment of hæmoptysis with inhalations of liquor ferri sesquichloridi 65
Brunton, Dr. T. L., on the use of the nitrite of amyl in angina pectoris 82
Bryant, Mr. Thos., on the diagnosis of tumours of the breast . . 260
Bubo, treatment of, hospital out-patient practice 246
Budd, Dr. Wm., on the nature and the mode of propagation of phthisis 66

Cadmium, on the poisonous properties of certain compounds of. By Dr. Marmé 117
Calculus, vesical, on a case of spontaneous breaking up of. By Dr. Guyeniot 244
Cameron, Mr. H. C., on a case of dislocation of the hip-joint into the sciatic notch, reduced by the American method 264
Cancer and phthisis, relations of. By Weeden Cooke, F.R.C.S. . 183
,, rodent. By Charles H. Moore, F.R.C.S. 227
,, the influence of inadequate operations on the theory of. By Charles H. Moore, F.R.C.S. 180
Carbon, tetrachloride of, on the anæsthetic properties of. By A. E. Sansom, M.D. 146
Casts, an easy method of taking. By Lawson Tait 189
Cautery, gas, of Nélaton. By Holmes Coote, F.R.C.S. . . . 129
Cephalotribe, the. By J. Braxton Hicks, M.D. 290
,, By Sir James B. Simpson, Bart., M.D. . . 290
Cerebral disease, a case of obscure infantile. By W. M. Chamberlain, M.D. 344
Cerumen, indurated, removal of, from the meatus auditorius . . 207
Chamberlain, Dr., a case of obscure infantile cerebral disease . . 344
Chancre, simple cephalic, on the successful inoculation of. By M. Rofeta 179
Charbonnier, M., on ammonia in traumatic tetanus 185
Charcot, M., on affections of the spinal cord accompanying chronic articular rheumatism 50
,, on lesions of the respiratory organs accompanying chronic articular rheumatism 58
Childhood, clinical papers on the surgery of. By T. Smith, F.R.C.S. 334
,, lancing the gums in. By F. H. Thomson, M.D. . . 342
Chloroform, poisoning by. By M. H. Senator 119
Cholera, cause of. By Henry Hartshorne, M.D. 22
,, papers on. By E. D. Mapother, M.D., and P. C. Little, M.D. 21
,, the communicability of 352
,, treatment of, by bromide of potassium. Under the care of Dr. Sutton 4

PAGE
Cholera, ophthalmological observations in. By Professor Graefe . 199
,, report on, with remarks. By Drs. Haydon and Cruise. . 20
,, the topography of. By E. Mapother, M.D. . . . 21
Choleraic patients, observations on gangrenous affections in. By M. A. Mouchet 22
Cinchona bark, alkaloids of 127
Clavicle, fracture of, in an aged person without visible sign . . 258
Clowes, Mr. F., on a case of talipes equino-varus 271
Cockburn, Dr. J. B., cases of syphilitic alopecia treated with Mr. H. Lee's mercurial vapour bath 111
Congestion, cerebral, and hallucinations, treatment of, by arsenious acid. By M. Lisle 43
Congestion, spinal, from sudden suppression of menstruation: paralysis of the four limbs: recovery. Under the care of Dr. Radcliffe . 44
Conii extractum: an uncertain preparation. By Dr. Harley . . 127
Consumption, pulmonary, on the treatment of. By Henry Bennet, M.D. 74
,, ,, the therapeutics of. By Dr. Hérard . . 76
Contagious Diseases Act in relation to the civil population . . . 351
Convulsions, puerperal, a case of, successfully treated by chloroform and induction of premature labour. By Wm. Holme, M.R.C.S.E. 323
,, ,, the nature and treatment of. By Arthur B. Steele 321
Cooke, Mr. Weeden, on the relations of cancer and phthisis . . 183
Coote, Mr. Holmes, on the gas cautery of Nelaton 129
Copper, on the use of azotite of, for cancer 130
Cornea, opaque, cure of. By M. de Luca 151
Corns, treatment of. By Erasmus Wilson, F.R.S. 276
Cotton, Dr. Richard Payne, on the nature and the mode of the propagation of cholera 68
Cranium, traumatic lesions of. On the indications for and against the application of the trephine. By Dr. Léon le Fort . . . 226
Croly, Mr., report of five cases of cerebro-spinal meningitis . . 15
Crossman, Mr. E., on a case of labour terminating in expulsion of hydatids 282
Croton oil, poisoning from 115
Crowther, Mr. W. L., on the safety of the median operation for the removal of stone from the bladder 231
Curara, on the action of 126
Curran, Mr. J. W., on iodine inhalation in the treatment of diphtheria 64

Delirium Tremens, on the treatment of, by cannabis indica. By John Beddoe, B.A., M.D. 52
Delivery, new method of, by the practice of external manipulation. By Dr. Kristeller 280
,, with extensive adhesions of the external genitals. By Dr. P. Müller 298
Demarquay, M., on ligature of the lingual arteries 216
Deodorisers, disinfectants, and antiseptics 154
Dewar, Dr., on sulphurous acid as applied to wounds and sores . . 178
Diarrhœa, treatment of. By J. Johnson, M.R.C.S. 88
Diberder, M., on ossification of the lung in phthisis 79
Digestion, artificial, Dr. Marcet's process 131
Digitalis, on the action of, in the febrile state. By M. Oulmont . 143
Diphtheria, iodine inhalation in the treatment of. By J. W. Curran, L.K.Q.C.P.I. 64

PAGE

Dohrn, Prof., on a case of Cæsarian section, on account of a fibroid tumour springing from the posterior wall of the pelvis . . 292
Dracunculus, notes on. By E. J. Waring, M.D. 105
Dropsy, acute, without albuminuria, report of a case of. By W. R. Basham, M.D. 27
Duffield, Dr. Samuel, on a case of bromine poisoning . . . 116
Dubrueil, M., and M. Legros, on the action of sulphocyanide of potassium 117
Duparcque, Dr., on the treatment of acute idiopathic peritonitis . 92

Earache, local anæsthesia in. By Chas. Shoyer, M.D. . . . 226
Ear passage, on obstructions of, by ceruminous concretions. By Professor Böning 208
Eczema and lichen, case illustrating the identity of. By Dr. M'Call Anderson 114
Electricity as a curative agent. By H. Lobb, M.R.C.S. . . . 331
Empyema in children, on the treatment of. By Thos. Hillier, M.D. 343
Epilepsy, cases of, with complications; remarks upon treatment. Under the care of Dr. Althaus 41
Erhardt, Professor, on a case of mania acutissima occurring during a paroxysm of intermittent fever 48
Erysipelas and purulent infection in surgical wards, on the prophylactic treatment of. By M. Gosselin 169
Erythema nodosum, case of. By H. S. Purdon, M.D. 98
Ether, pulverized, in the treatment of chorea. By Dr. Zemberlin . 127
,, spray, in uterine hæmorrhage. By Dr. T. C. Thompson of Texas 331
,, ,, the use of 128
Eulenburg, MM. and Guttmann, on the action of bromide of potassium 147
Evans, Mr. C. J., on epileptiform neuralgia during the puerperal period; epileptic seizures; phlegmasia dolens 327
Eye-ball, a case of cysticercus cellulosæ in the interior of: removal of the same by operation. By Professor Arlt 204
,, ,, case of dislocation of, through a blow from a cow's horn By Professor Becker 201
,, -washes, containing preparations of lead, danger of . . . 131

Fano, M., on legal medicine in its relation to ophthalmology . . 120
Fayrer, Dr., on opium in the treatment of ulceration 132
"Febris Nigra," on the recent outbreak of, in Ireland. By R. D. Lyons, M.B. 10
Fever at Mauritius, a general account of. By W. H. F. Power, B.A. 19
,, continued, forms of, and their definitions. By James Stark, M.D. 5
,, ,, on the use of opiates in. By N. G. Mercer, M.D. 2
,, malignant purple, in Ireland. By E. D. Mapother, M.D. . 8
,, ,, purpuric. By Jeffrey A. Marston, M.D. . . 7
,, rheumatic, on some fatal cases of. By Sydney Ringer, M.D. 30
Fevers, intermittent, the cryptogamic theory of the origin of . . 7
Fœtation, extra uterine, treated by abdominal section; recovery. By J. Braxton Hicks, M.D., F.R.S. 295
Fœtus, report of a case of retention in utero of the greater portion of the skeleton of a dead, for a period of four years. By Dr. Halley 294

PAGE
Forceps, the, by Robert Barnes, M.D. 302
,, single curved, short or long, objections to. By Robert Barnes, M.D. 293
Forearm, amputation through; wound healed by primary union. Under the care of Mr. Maunder 255
Forster, Dr., on sub-luxation of the body of the sternum . . . 261
Fox, Dr. Tilbury, on contagious impetigo (phlyctenodes) . . . 101
Freckles, on the removal of. By Dr. Savignac 99
Fuller, Dr., does belladonna produce a rose-red rash? . . . 134

Galezowski, M. Xavier, on the treatment of strabismus . . . 193
Gardner, Dr. W. H., report of a case of hemeralopia successfully treated by strychnia and opium combined 49
Gland, an hypertrophied cervical, treated by injections of iodine. By C. H. Marsh, M.D. 222
Glands, parotid and submaxillary, ulcerated scirrhus of. By Prof. Otto Weber 223
Glaucoma, case of neglected; iridectomy. Under the care of Mr. Bowman 191
,, experimental contributions to the history of. By Dr. Wegner 190
Gleet, oil of sandal-wood in 235
Glottis, spasm of. By M. Bouchut 59
Gonorrhœa, blistering the groin for. By Henry Veale, M.D. . . 234
,, starch injections in. By M. Luc 234
Gosselin, M., on the prophylactic treatment of erysipelas and purulent infection in surgical wards 169
Graefe, Professor, ophthalmological observations in cholera . . 199
,, Alfred, on simulation of unilateral amaurosis . . . 201
Greenway, Mr., on the importance of rest in severe abdominal injuries 227
Gross, Dr., on wounds of the internal jugular vein 219
Gru, Dr., on hydrochlorate of ammonia in senile gangrene . . 136
Guérin, M., on the treatment of anthrax 189
Guibout, M., on the difficulties in the diagnosis of skin diseases . 713
Gums, lancing the, in childhood. By F. H. Thomson, M.D. . . 342
Guyeniot, Dr., on a case of spontaneous breaking up of a vesical calculus 244

Habershon, Dr., on the treatment of diseases of the heart . . . 84
Halley, Dr., on a case of retention in utero of the greater portion of the skeleton of a dead fœtus for a period of four years . . 294
Hand, the obstetric. By Robert Barnes, M.D 284
Hammond, Dr. William A., on convulsive tremor 53
,, ,, on wakefulness 37
Harley, Dr. John, on extractum conii 127
Hayden, Drs., and Cruise, report on cholera, with remarks . . 20
Hartshorne, Dr. Henry, on cholera 22
Hemeralopia, case of, successfully treated by strychnine and opium combined. By W. H. Gardner, M.D. 49
Hæmoptysis, treatment of, with inhalations of liquor ferri sesquichloridi. By P. Q. Brondgeest, M.D. 65
Hæmorrhage, on the proper means to lessen the inconveniences resulting from, in certain operations performed upon the face. By M. Verneuil 217

PAGE

Hæmorrhagic diathesis, case of, under the care of Dr. Garrod . . 104
,, uterine, soot-tea in. By E. A. Wood, M.D. . . 287
,, ,, the ether spray in 331
Heart, treatment of diseases of. By S. O. Habershon, M.D. . . 84
Heartburn. By F. W. Pavy, M.D., F.R.S. 26
Heat as a means of resuscitation. By Dr. Richardson, of New York 125
Heath, Mr. Christopher, on the treatment of ozæna 209
Helmke, Dr., on the treatment of whooping-cough by inhalation of bromide of potassium 342
Hérard, M., on the inoculability of tubercle 1
,, Dr., on the therapeutics of pulmonary consumption . . 76
Hernia, umbilical 229
Hewitt, Dr. Grailey, on excessive lactation and its effects . . . 328
Hicks, Dr. Braxton, on a case of extra-uterine fœtation, treated by abnormal section; recovery 295
,, on the cephalotribe 290
,, on some of the diseases of the female urethra and bladder 305
Hillier, Dr., case of lupus exedens: Mr. Bruce's gas-cautery . . 109
,, on the treatment of empyema in children . . . 343
Hip-joint, a case of dislocation of, into the sciatic notch, reduced by the American method. By Hector C. Cameron, M.B., C.M . 264
Hitchcock, Dr. Alfred, case of rupture of the tricuspid valves of the heart from fright 85
Hjaltelin, Dr., on the treatment now used against the hydatid disease in Iceland 89
Holme, Mr. W., a case of puerperal convulsions successfully treated by chloroform and induction of premature labour . . . 323
Humerus, fracture of, above the condyles, simulating sub-luxation of the elbow-joint. By Mr. Nunn 258
Humphry, Dr., on the treatment of wounds without dressings; on sutures and acupressure 171
Hutchings, Dr. E. R., a case of metritis following induced abortion, and complicated with scarlatina 324
Hydatid disease, on the treatment now used against, in Iceland. By J. Hjaltelin, M.D. 89
Hyposulphites as antiseptics. By Dr. Constantin Paul . . . 142

Impetigo. By T. W. Belcher, M.A., M.Ch., M.D. . . . 99
,, contagious. By Tilbury Fox, M.D. 101
Injection, hypodermic, danger of. By Dr. Mitchell . . . 123
,, ,, By M. Arnold 122
,, ,, method of. Report of the Sanitary Committee appointed to investigate the physiological and therapeutical effects of 122
,, subcutaneous, of morphia in the spasms caused by gall-stone. By C. R. Thompson 124
Insanity, moral. By M. A. Brierre de Boismont 40
Iridectomy in recurrent iritis. By Wm. Bowman, F.R.S. . . 196
Iritis, acute, on the relative value of atropine and mercury in the treatment of. By T. P. Teale, F.R.C.S. 197
Iritis, on the treatment of. By Albert Mooren, M.B. . . . 196
,, syphilitic, report of a case of. By Henry Power, F.R.C.S., M.B. 198
Itch in delicate skins. Hebra's treatment 98

PAGE

JARJAVAY, M., on the complications and treatment of fracture of the cartilaginous septum of the nasal fossæ 211
,, on the supposed luxation of the long head of the biceps cubiti muscle 256
Jasche, Dr., on the treatment of varicose veins by the galvanic current 261
Jaw, fractured: profuse hæmorrhage stopped by digital compression. Under the care of Mr. Maunder 224
Johnson, Dr. George, on a case in which a penny coin impacted in the throat of a child was discovered and removed by the aid of the laryngoscope 220
,, ,, on the pathology of the liver and kidney . 93
,, Mr. J., on the treatment of diarrhœa 88
Jones, Dr. Bence, medicines or food that directly promote nutrition . 137
,, Dr. T. W., on the successful extraction through the perineum from the bladder and urethra of a lead pencil of six inches in length 236

KENNEDY, Dr. Wm. A., on an extraordinary case of early viability . 287
Kidneys, granular, case of; rapid œdema of the glottis. Under the care of Dr. Barclay 96
Knee-joint, case of gunshot wound of; removal of the ball from the articulation, and recovery. By Walter F. Atlee, M.D. . . 270
,, repeated resection of 269
,, suppuration of; articulation laid freely open; recovery. Under the care of Mr. Holmes Coote 269
Kristeller, Dr., on a new method of delivery by the practice of external manipulation 280

LABAT, Professor, on the means of avoiding the accidental complications of wounds 178
Laborde, M., on the action of bromide of potassium 149
Labour, difficult, in pendulous abdomen; the treatment and cause of. By Robert Barnes, M.D. 277
,, obstructed by a fibrous band; diseased placenta. By H. C. Rogers 281
,, premature, on the induction of. By Thomas Telford, M.D. . 303
,, ,, ,, By Professor Lazarewitch . 289
,, terminating in expulsion of hydatids. By Edward Crossman . 282
,, two cases of, illustrating the use of the cephalotribe. By J. Kingsland, M.D. 291
Lactation, excessive, and its effects. By Graily Hewitt, M.D. . 328
Laskouski, Dr. S., on encysted hydropsy of the ovary and its surgical treatment 334
Lazarewitch, Professor, on the induction of premature labour by injection to the fundus of the uterus 289
Leared, Dr. Arthur, on a case of albuminoid precipitate in the urine 93
Lebert, M., on the influence of contractions of the orifice of the pulmonary artery upon the formation of pulmonary tubercle . . 86
Liberali, Dr., on the use of bromide of potassium and bromide of quinine in nervous diseases 148
Liebreich, Dr., on a modification of the operation for strabismus . 193
Lisle, M., on the treatment of cerebral congestion and hallucinations 43

PAGE

Lister, Mr. Joseph, on the antiseptic principle in the practice of surgery 185
Lithotomy, median, no incontinence of urine; recovery. Under the care of Mr. Maunder 231
Little, Dr. P. C., papers on cholera 21
Liver and kidney, on the pathology of. By George Johnson, M.D. 93
Lobb, Mr. H., on electricity as a curative agent 331
Lowe, Dr. G. M., on an epidemic of cerebro-spinal meningitis . 13
Luc, M., on starch injections in gonorrhœa 234
Luca, M. de, on the cure of opaque cornea 151
Lung, on ossification of, in phthisis. By M. Le Diberder . . 79
Lupus exedens, case of; Mr. Bruce's gas-cautery. Under the care of Dr. Hillier 109
Lyons, Dr., on the recent outbreak of "febris nigra" in Dublin . 10
Léon, Dr., on the indications for and against the application of the trephine in traumatic lesions of the cranium 226

Magitot, Dr., on alveolar-dental osteo-periostitis 220
Mania, acute, the diagnosis of. By Henry Maudsley, M.D. . . 36
Mania acutissima, occurring during a paroxysm of intermittent fever By Professor Erhardt 48
Mapother, Dr., on the malignant purple fever epidemic . . . 8
,, ,, topography of cholera 21
Marchal, M., on hurtful remedies in the treatment of pulmonary phthisis 76
Marmé, Dr., on the poisonous properties of certain compounds of cadmium 117
Marston, Dr., on the so-called epidemic of "malignant purpuric fever" 7
,, on the treatment of hypertrophic cervical glands . . 222
Maudsley, Dr. Henry, on the melancholia of early life . . . 39
,, ,, diagnosis of acute mania . . . 36
Mayer, Dr. Rudolph, on the differential diagnosis between chronic abscess of the brain and a cerebral tumour 46
Marjolin, M., report of a case of multiple fracture of the bones of the pelvis, with dislocation of the sacrum upon the left ilium, and laceration of the urethral canal in an infant ten years of age . 228
Medicinal agents, on the absorption of, by the mucous membrane of the nasal fossæ. By M. Raimbert 123
Medicine, legal, in relation to ophthalmology. By M. Fano . . 120
Melancholia, on, of early life. By Henry Maudsley, M.D. . . 39
Meningitis, cerebro-spinal, report of five cases of. By H. G. Croly 15
,, ,, on an epidemic of. By G. M. Lowe, M.B. 13
Mercer, Dr., on the use of opiates in continued fever . . . 2
Mercury, on the efficacy of, in the treatment of syphilis . . . 138
Methylene, bichloride of, as a general anæsthetic 152
Metritis, a case of, following induced abortion, and complicated with scarlatina. By E. R. Hutchins, M.D. 324
,, chronic; Professor Scanzoni's treatment 327
Milk, on the curative virtues of. By J. T. Banks, M.D. . . 129
Mitchell, Dr., on a danger of hypodermic injection 123
Moore, Mr. Charles H., on the influence of inadequate operations on the theory of cancer 180

PAGE
Moore, Mr. Charles H., on rodent cancer 227
Mooren, Dr. Albert, on the treatment of iritis 196
Mouchet, M. A., observations on gangrenous affections in choleraic patients 22
Mouth, on dermoid cysts of the floor of. By M. A. Paquet . . 213
Müller, Dr. P., on a case of delivery with extensive adhesion of the external genitals 298

Nasal Fossæ, on the complications and treatment of fracture of the cartiiaginous system of the. By Prof. Jarjavay . . . 211
Nævus, clinical papers on the surgery of childhood. By Thos. Smith, F.R.C.S. 334
Neumann, Dr. Isidor, on the action of carbolic acid upon organic tissues 145
Neuralgia, epileptiform, during the puerperal period. By C. J. Evans 327
Nipples, sore, treatment of. By Dr. Blacquières 229
Nutrition, medicines or food that directly promote. By Bence Jones, M.D. 137
Nunn, Mr., case of fracture of the humerus above the condyles, simulating sub-luxation of the elbow-joint 258

Operations, on the various risks of. By James Paget, F.R.S. . 156
Ophthalmia, calomel, topically in. By M. Giraud Teulon . . 192
Opium in the treatment of ulceration. By J. Fayrer, M.D. . . 132
Orbit, pulsating tumour in, cured by ligature of the common carotid artery. By Joseph Bell, F.R.C.S. 202
Os calcis, sub-periosteal resection of. By T. Annandale, F.R.S. . 273
Osteo-myelitis, idiopathic diffuse, contributions to the clinical history of. By Dr. Ed. V. Wahl 267
Osteo-periostitis, on alveolar dental. By Dr. E. Magitot . . . 220
Otalgia, local anæsthesia in. By C. C. Shoyer, M.D. . . . 226
Oulmont, M., on the action of digitalis in the febrile state . . 143
Ovarian disease, the diagnosis of 333
Ovariotomy, operations performed under the influence of bichloride of methylene 252
Ovary, on encysted hydropsy of, and its surgical treatment. By Dr. S. Lasrouski 334
Ozæna, on the treatment of. By Christopher Heath, F.R.C.S. . 209

Paget, Mr. James, on the various risks of operations . . . 156
Paquet, M., on dermoid cysts of the floor of the mouth . . . 213
Passavont, Dr., on the treatment of psoriasis and eczema by a flesh diet 107
Paul, Dr. C., on the hyposulphites as antiseptics 142
Paris, Dr., on heartburn (cardialgia) 26
Pelvic cellulitis, a case of, under the care of Dr. Greenhalgh . . 332
Pelvis, multiple fracture of the bones of, with dislocation of the sacrum upon the left ilium, and laceration of the urethral canal in an infant ten years of age. By M. Marjolin 228
Pepsine, the Codex account of, and its preparation 124
Peritonitis, acute idiopathic, on the treatment of. By Dr. Duparcque 92
Pharmacopœias, the British and London compared, for the use of prescribers 121

PAGE

Pharyngitis, chronic, treatment of. By Dr. J. R. Black . . . 88
Phosphorus, the poisonous action of 128
Phthisis, on the nature and mode of propagation of. By Wm. Budd, M.D. 66
,, ,, ,, By Richd. Payne Cotton, M.D. 68
,, pulmonary, on hurtful remedies in the treatment of. By M. Marchal 76
,, treatment of. By E. Symes Thompson, M.D. . . . 70
Pleuritic effusion, on a particular cause of error in the diagnosis of certain cases. By W. Woillez 59
Pneumonia, bleeding in 60
,, the alcoholic treatment of. By MM. Béhier and Jaccoud 61
,, the treatment of. By A. T. H. Waters, M.D. . . 61
Podophyllin, on the therapeutical properties of. By Dr. Ernest Schmidt 144
Polli, Dr., on the antiseptic properties of the sulphides . . . 141
Porcher, Dr., on the treament of the congestive stage of ague . . 7
Potassium, bromide of, and bromide of quinine, in nervous diseases. By Dr. Liberali 148
,, ,, on the action of. By MM. Eulenburg and Guttmann 147
,, ,, on the action of. By M. Laborde . . 149
,, sulpho-cyanide of, on the action of. By MM. Dulmeil and Legros 117
Power, Mr. Henry, report of a case of syphilitic iritis . . . 198
,, Mr. W. H. F., on the epidemic of fever at Mauritius . . 19
Pregnancy, cases and remarks illustrating the history of, complicated with small-pox. By Robert Barnes, M.D. 296
Pruritus, the treatment of 103
Psoriasis and eczema, on the treatment of, by a flesh diet. By Dr. Passavont 107
Purdon, Dr. H. S., case of erythema nodosum 98

"Ramollissement," cerebral. By Dr. H. Soulier 45
Respiratory organs, lesions of, accompanying chronic articular rheumatism. By M. Charcot 58
Raimbert, M., on the absorption of medicinal agents by the mucous membrane of the nasal fossæ 123
Richardson, Dr. B. W., on the bichloride of methylene as a general anæsthetic 152
,, of New York, on heat as a means of resuscitation 125
Ringer, Dr. Sydney, on some fatal cases of rheumatic fever . . 30
Ringland, Dr. J., on two cases of labour, illustrating the use of the cephalotribe 291
Rofeta, M., on the successful inoculation of a simple cephalic chancre 179
Rogers, Mr. H. C., on a case of labour obstructed by a fibrous band; diseased placenta 281
Roosa, Dr., on catarrhal inflammation of the cavity of the tympanum occurring in young persons 206
Riget, Dr., on a case of irreducible backward luxation of the ungual phalanx of the great toe of the right foot 274

PAGE

SANDWITH, Dr. H., on the indications for manual interference and other agencies in the treatment of abortions 278
Sansom, Dr., on the anæsthetic properties of the tetrachloride of carbon 146
Savignac, Dr., on the removal of freckles 99
Scabies, sulphuret of calcium in 98
,, the treatment of. By Erasmus Wilson, F.R.S. . . . 96
,, ,, By F. W. Belcher, M.D., M.A. . . 97
Scapula, removal of, with the left upper extremity. By Sir William Fergusson, Bart. 258
Scharlau, Dr., on two cases of rupture of the uterus 300
Scherer, Dr., on a case of birth of twins connected together by their thoracic and abdominal surfaces 283
Schmidt, Dr. Ernst, on the therapeutical properties of podophyllin . 144
Section, Cæsarian, on account of a fibroid tumour springing from the posterior wall of the pelvis. By Professor Dohrn . . . 292
Semmola, Dr. M., on the pathology of albuminuria . . . 94
Simpson, Sir James, on the cephalotribe 290
Senator, M. H., on poisoning by chloroform 119
Shoyer, Dr., on local anæsthesia in otalgia 226
,, on poisoning from croton oil 115
Singultus, obstinate, cured by extract of cannabis indica . . . 128
Skin diseases, on the difficulties in the diagnosis of. By M. Guibout 113
Small-pox, how to prevent pitting of the face by. By C. Black, M.D. 28
Smith, Mr. T., on nævus 334
Soda, crystallized sulphate of, on the action of, upon specks on the cornea. By M. de Luca 151
„ phosphate of, on the action and uses of, in small doses. By W. Stephenson, M.D. 150
Soulier, Dr. H., on cerebral "ramollissement" 45
Speculum, a new expanding, and a self-holding tenaculum . . 297
Speech, cases of defect of, with hemiplegia of the right side . . 51
Spielgelberg, Professor O., on incision of the os uteri and mucous membrane of the body of the uterus, for the purpose of relieving the hæmorrhage produced by subcutaneous fibroid tumours . . 245
Spinal cord, on affections of, accompanying chronic articular rheumatism. By M. Charcot 50
Spray, ether, uses of the 128
,, producer, use of the, in syphilitic ulceration of the throat, under the care of Dr. Murchison 221
Stark, Dr., on the forms of continued fever, and their definitions . 5
Steele, Mr. A. B., on the nature and treatment of puerperal convulsions 321
Sternum, sub-luxation of the body of the. By M. Foster, M.D. . 261
Stomach-pump, a substitute for 130
Stone, a few remarks on the safety of the median operation for the removal of, from the bladder. By W. L. Crowther, M.R.C.S. . 231
„ in the bladder of the adult; considerations suggested by the study of one hundred cases recently operated on. By Sir Henry Thompson 230
Stephenson, Dr., on the action and uses of phosphate of soda in small doses 150
Strabismus, a modification of the operation for. By R. Liebreich, M.D. 193
„ on the treatment of. By M. Xavier Galezowski . . 193

PAGE
Strychnine, poisoning by. By J. Bartlett, M.D., of Clichy . . 119
Suckling, Dr. G. B., on spasm of the gravid uterus 287
Sulphides, on the antiseptic properties of. By Dr. Polli, of Milan . 141
Surgery, on the antiseptic principle in the practice of. By Joseph Lister, F.R.S. 185
Sweating, profuse, on decoction of sage in. By M. Vignard . . 126
Syme, Prof. James, on the treatment of incised wounds with a view to union by the first intention 170
Syphilization, report on 110
Syphilitic alopecia, cases of, treated with Mr. H. Lee's mercurial vapour bath. By J. Balfour Cockburn, M.D. 111

Tait, Mr. Lawson, an easy method of taking casts 189
Talipes equino-varus, a case of. By Fredk. Clowes, M.R.C.S. . 271
Teale, Mr. T. P., on the relative value of atropine and mercury in the treatment of acute iritis 197
Telford, Dr. Thomas, on the induction of premature labour by the douche 303
Tellkampf, Dr. T. A., on an abnormal twin-birth (one head keyed by another) 285
Tetanus, case of, under the care of Dr. Barker 184
,, traumatic, ammonia in. By Dr. Charbonnier . . . 185
Teulon, M. Giraud, on calomel, topically, in ophthalmia . . . 192
Thebaud, Dr. J. S., on a case of elephantiasis arabum successfully operated on 238
Thigh-bone, compound fracture of, at the junction of the lower epiphysis, and simple fracture of the other, under the care of Mr. Gay 266
Thomson, Dr. F. H., on lancing the gums in childhood . . . 342
Thompson, Dr. T. C., on the ether-spray in uterine hæmorrhage . 331
,, Dr. Symes, on the treatment of phthisis 70
,, Mr. Charles Robert, on the subcutaneous injection of morphia in the spasm caused by gall-stone 124
,, Sir Henry, considerations suggested by the study of one hundred cases of stone in the bladder of the adult recently operated on 230
Throat, case in which a penny coin impacted in the throat of a child was discovered, and removed by the aid of the laryngoscope. By G. Johnson, M.D., F.R.C.P. 220
Toe, great, irreducible backward luxation of the ungual phalanx of. By Dr. Riget 274
Toe-nail, treatment of, in-growing. By Dr. Bailey 275
Tongue, cancer of 215
Tremor, convulsive. By W. A. Hammond, M.D. 53
Tubercle, on the inoculability of. By M. Hérard 1
Twin-birth, an abnormal (one head keyed by another). By T. Tellkampf, M.D. 285
Twins, birth of, connected together by their thoracic and abdominal surfaces. By Dr. Scherer 283
Tympanum, on catarrhal inflammation of the cavity of the, occurring in young persons. By Dr. Roosa 206
Typhus, cerebro-spinal, epidemic of, in Ireland 17

Urethra, female, and bladder, on some of the diseases of. By J. Braxton Hicks, M.D., F.R.S. 305

PAGE

Urethra, female, interior of, viewed by a magnesium light. By E. Andrews, A.M., M.D. 238
,, old stricture of; disease of the bladder; nephritic and perinephritic abscesses; death; autopsy. Under the care of Mr. Erichsen 235
Urine, incontinence of, successfully treated with extract of belladonna 94
Uteri, os, on incision of the, and mucous membrane of the body of the uterus, for the purpose of relieving the hæmorrhage produced by submucous fibroid tumours. By Prof. O. Spiegelberg . . 245
Uterus, case of extreme anteversion of, cured by the application of a bag of sand on the hypogastrium. Under the care of Dr. Greenhalgh 330
,, the gravid, spasm of. By G. B. Suckling, M.D. . . 287
,, ten cases of rupture of. By Drs. Scharlau and Kaufmann . 300

Valves, tricuspid, rupture of. By Alfred Hitchcock, M.D. . . 85
Varicose veins, treatment of, by the galvanic current. By Dr. Jasche 261
Veale, Dr. H., on blistering the groin for gonorrhœa . . . 234
Vein, internal jugular, wounds of. By S. W. Gross, M.D. . . 219
Velpeau, M., on soluble glass bandages 130
Verneuil, M., on the proper means to lessen the inconvenience resulting from hæmorrhage in certain operations performed upon the face 217
Vertebræ, cervical, fracture of the sixth and seventh: death in three days. Under the care of Mr. Holmes Coote 225
Viability, early, extraordinary case of. By Wm. Kennedy, M.D. . 287
Vignard, Dr., on decoction of sage in profuse sweating . . . 126
Vomiting, obstinate, caused by the presence of a foreign body in the uterus. By James Blake, M.D. 304

Wahl, Dr. E. V., contributions to the clinical history of idiopathic diffuse osteomyelitis 267
Wakefulness, on. By William A. Hammond, M.D. . . . 37
Waring, Dr., on dracunculus 105
Waters, Dr. A. T. H., on the treatment of pneumonia . . . 61
Weber, Prof. Otto, on ulcerated scirrhus of the parotid and submaxillary glands 223
Wagner, Dr., experimental contributions to the history of glaucoma 190
Whitlow, treatment of—hospital out-patient practice . . . 252
Whooping-cough, on the treatment of, by inhalation of bromide of potassium. By Dr. Helmke 342
,, prophylaxis of 59
Wilson, Erasmus, Mr., on the treatment of scabies 96
,, ,, ,, corns 276
Woillez, M., on a particular cause of error in the diagnosis of certain cases of pleuritic effusion 59
Wood, Dr. E. A., on soot-tea in uterine hæmorrhage . . . 387
Wounds, incised, on the treatment of, with a view to union by the first intention. By James Syme, F.R.S.E. 170
,, on the application of perchloride of iron to. By Professor Bourgade 176

PAGE

Wounds, on the means of avoiding the accidental complications of. By Prof. Labat 178
" on the treatment of, without dressings. On sutures and acupressure. By G. M. Humphrey, M.D., F.R.S. . . . 171
" the dressing of 174
" the means of obtaining the immediate organization of, and consequently of preventing most traumatic accidents. By M. Abeille 175

ZEMBERLIN, Dr., on pulverized ether in the treatment of chorea . 127

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END OF VOL. XLVI.